

PROTECTING THE ROMAN EMPIRE

FORTLETS, FRONTIERS,
AND THE QUEST FOR
POST-CONQUEST SECURITY

MATTHEW SYMONDS



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PROTECTING THE ROMAN EMPIRE

The Roman army enjoys an enviable reputation as an instrument of waging war, but as the modern world reminds us, an enduring victory requires far more than simply winning battles. When it came to suppressing insurgencies, or deterring the depredations of bandits, the army frequently deployed small groups of infantry and cavalry based in fortlets. This remarkable installation type has never previously been studied in detail, and shows a new side to the Roman army. Rather than displaying the aggressive uniformity for which the Roman military is famous, individual fortlets were usually bespoke installations tailored to local needs. Examining fortlet use in north-west Europe helps explain the differing designs of the Empire's most famous artificial frontier systems: Hadrian's Wall, the Antonine Wall, and the Upper German and Raetian *limites*. The archaeological evidence is fully integrated with documentary sources, which disclose the gritty reality of life in a Roman fortlet.

Dr Matthew Symonds is the editor of *Current World Archaeology* magazine and a Fellow of the Society of Antiquaries of London. He has published widely on Roman frontiers.

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To Malcolm and Linda
for literally everything

CONTENTS

<i>List of Figures</i>	<i>page xi</i>
<i>Acknowledgements</i>	<i>xiii</i>
1 INTRODUCTION	I
Outposts of Empire	4
What Is a Fortlet?	5
What Is a Tower?	12
Interpreting Fortlets	16
Bands of Brothers?	23
PART I CONSOLIDATING CONQUEST	33
2 WATERWAYS	35
The Lower Rhine	36
The Raetian Danube	42
The Exmoor Coast	48
Controlling Watercourses in the First and Second Centuries	53
3 HIGHWAYS	55
Germany	57
Wales	58
The Gask Ridge	65
The Pennines	72
Antonine Scotland	77
Controlling Roads in the First and Second Centuries	90

PART 2	BORDER CONTROL	93
4	HADRIAN'S WALL	95
	The Build-up to Hadrian's Wall	96
	The Stanegate System	98
	Constructing Hadrian's Wall	104
	The Cumbrian Coast	121
	The Purpose of the Hadrianic System	122
	The Post-Antonine Frontier	127
	Intelligent Design?	131
5	THE ANTONINE WALL	133
	The Empire Strikes Back	136
	Building the Antonine Wall	137
	Designing and Operating the Wall Fortlets	142
	The Coastal Cordon	147
	Regular Irregularity	149
6	THE UPPER GERMAN AND RAETIAN <i>LIMITES</i>	152
	A Flexible Format	154
	Watching the <i>Limes</i>	157
	Incremental Exclusion	159
	Outpost Use	167
	Localism	172
	A Mercurial Frontier	173
PART 3	PROVINCIAL COLLAPSE	177
7	LATE HIGHWAYS	181
	Desert Deals	182
	The Zülpich Nexus	183
	The Final Frontier	189
	The Fourth-Century Security Situation in Britain	192
	Roads to Ruin?	195

8	LATE WATERWAYS	197
	The Late Rhine	198
	The Yorkshire 'Signal Stations'	203
	Stormy Waters	208
9	IMPERIUM BY OUTPOST	213
	Fortlet Variations	214
	Regularity versus Irregularity	220
	And in the End. . .	223
	Rome's Small Wars	225
	<i>Bibliography</i>	229
	<i>Index</i>	247

FIGURES

1	The Roman <i>praesidium</i> of Maximianon	page 2
2	The size of the legionary fortress at Caerleon, the auxiliary fort at Wallsend, and the fortlet at Old Burrow	8
3	The <i>principia</i> at Housesteads, and possible <i>principia</i> at Castleshaw and Tisavar	9
4	A reconstruction of the Antonine fortlet at Barburgh Mill	11
5	Two components of the <i>skopeloi</i> chain established along the Myos Hormos road	13
6	Three possible reconstructions of the Hadrian's Wall turrets	14
7	Qusûr Al-Banât, Krokodilo/Al-Muwayh, Bi'r al-Hammâmât, Maximianon/Al-Zarqâ	26
8	The internal buildings at Martinhoe, Marktveld, Degerfeld, and 'in der Harlach'	41
9	Nersingen, Burlafingen, Weltenburg Am Galget, Haardorf-Mühlberg, Martinhoe, and Old Burrow	43
10	The military installations on the Upper Danube from Hüfingen to Haardorf-Mühlberg in the Claudian period.	44
11	The view west from Burlafingen, the location of Nersingen, the location of Neuberg a. d. Donau, and the course of the Danube directly north of Weltenburg Am Galget.	45
12	The approximate views north, east, south, and west from Martinhoe	49
13	The location of Martinhoe	50
14	Flavian Wales and Exmoor	60
15	Llanfair Caereinion, Pen y Crocbren, Hirfynydd, Maiden Castle, Castleshaw, Milton, Redshaw Burn, Lantonside, Barburgh Mill, and Durisdeer	61
16	The location of Hafan	62
17	Pen y Crocbren fortlet	63
18	The Gask Ridge and Flavian Scotland	66
19	The Gask Ridge tower at Kirkhill	67
20	The location of the fortlet at Inverquarity	69
21	The military installations on the Stainmore pass between Brough and Bowes	75
22	Chew Green and Oxton	79
23	The possible Antonine fortlet at Oxton	80
24	The fortlet at Chew Green, showing its triple ditches and possible annex to the south	80

25	The installations erected along Nithsdale and Annandale in south-west Scotland	82
26	Lantonside fortlet and outer enclosures	84
27	Barburgh Mill fortlet under excavation	86
28	The location of Durisdeer	88
29	The installations arranged along the Stanegate road and Hadrian's Wall as completed following the fort decision	99
30	The location of and views from the Stanegate fortlets at Throp and Haltwhistle Burn	101
31	Throp and Haltwhistle Burn	102
32	Hadrian's Wall pre- and post-fort decision	105
33	The first phase of occupation at milecastle 9, milecastle 35, milecastle 37, milecastle 47, milecastle 48, and milecastle 50	110
34	The locations of milecastles 37, 39, 42, and 48	111
35	The locations of turret 45b, turret 44b, the Peel Gap tower, and the Knag Burn gate	119
36	The Tipalt-Irthing gap	124
37	The Antonine Wall in its completed form	134
38	The primary and secondary fort model for the development of the Antonine Wall	135
39	The development of Duntocher	141
40	The locations of Croy Hill, Wilderness Plantation, Summerston, and Duntocher fortlets	141
41	Kinneil, Watling Lodge, Seabegs Wood, Wilderness Plantation, Cleddans, Duntocher	143
42	The location of Lurg Moor	148
43	The Upper German and Raetian <i>limites</i>	153
44	Rötelsee, Forsthofweg, Degerfeld, Pohl bei Kemel, Hintern Schlossbuck, Raitenbuch, bei Petersbuch, Hegelohe, and Hienheim	156
45	The <i>limes</i> was subdivided into fifteen individual stretches	158
46	The locations of Rehinbrohl, Seitzenbuche, Haselburg, and Hankertsmühle fortlets	170
47	Small fortified posts in the vicinity of Zülpich	184
48	Isny, Goldberg, Bürgle, Eining, Heidenberg, Froitzheim B, Rovenich, Braives and Bowes Moor	185
49	The Danube–Iller–Rhine frontier	190
50	Asperden, Moers Asberg, Ladenburg, Engers, Mannheim–Neckarau, The Nunnery, Huntcliff, Goldsborough, Scarborough, and Filey	200
51	The late fortlets along the north Yorkshire coast	204
52	The views from Filey, Scarborough, Ravenscar, and Huntcliff	205
53	The location of the Nunnery, Alderney	207
54	The changing distribution of freestanding fortlets in Britain from the first to fourth century AD.	215

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CHAPTER ONE

INTRODUCTION

Bassus to Galates, his brother, many greetings. I beg you, brother, give me news of yourself often, because you know that if there is trouble, I will not just be worried about you. Indeed, I fear for myself, because we are not very many here.

(O.Krok. 93)

These words, inked on a fragment of pottery recycled as a letter during the early second century AD, evoke the sense of vulnerability that Roman soldiers could experience during tours of duty in remote outposts. This letter was discovered in the Egyptian Eastern Desert and belongs to a class of documents known as *ostraca*, which have been found in their thousands among the ruins of quarry and military works established in those arid wastes (Fig. 1). As well as testifying to the eye-watering bureaucracy rampant in the Roman army, this remarkable corpus gives voice to the ordinary soldiers united – and separated – by service in outposts, many miles from their home base. Private letters, such as that written by Bassus to a comrade, expose the privations imposed by garrison life in inhospitable terrain populated by roaming bands of unpredictable ‘barbarians’. Military reports provide clinical accounts of the skirmishes that erupted when these nomads trespassed on imperial interests, naming Roman casualties and cataloguing non-fatal injuries. The epitaph for their adversaries amounts to little more than a tally of the dead and a terse statement of their transgressions.

Although these reports of martial activity are valuable, not least because eyewitness accounts of Roman combat are rare, it is hardly surprising to learn that military garrisons could be called on to fight. Hints and allegations of



1 The ruins of the Roman *praesidium* of Maximianon, on the Myos Hormos road in the Egyptian Eastern Desert.

Credit: Dylan Bickerstaffe

crimes perpetrated by soldiers are more jarring for some popular perceptions of the Roman army. Correspondence, both official and unofficial, divulges unauthorised absenteeism, bribery, and rogue soldiers being restrained with chains. Entire garrisons would club together to fill their downtime by securing a prostitute's services. Such vivid vignettes permit us to see beyond the sanitised official histories and glimpse the realities of life in a Roman outpost. Integrating this information with the archaeological evidence allows us to view such service in the round. By their very nature the mute structures, finds assemblages, and other evidence interrogated by archaeologists are devoid of such salacious snippets of information. Nevertheless, this evidence speaks in its own way, exposing the gaming boards on which soldiers gambled away their pay, the shoddily surveyed barracks where they slept, and an air of confidence or unease in the strength of the defences that sheltered them. Archaeology is also the only way we can meet the local population unalloyed by the shameless prejudice of Roman sources. It is meticulous study of the dating indices recovered during excavations that hones the chronological hooks on which the study of most outpost networks hang. Weighing the drudgery, deprivation, and danger against the fraternity, whoring, and wheeler-dealing delivers a balanced and – to modern eyes – sometimes uncomfortable view of garrison life.

The installations at the heart of this activity are called *praesidia* in the *ostraca*, but in English we know them as fortlets. Such fortifications were constructed

throughout the frontier provinces of the Roman Empire, but there is little clarity concerning how these posts advanced military agendas. Determining the intentions and impact, whether planned or unexpected, of fortlet use forms the focus of this book. Such a study cannot consider fortlets in isolation, though, because they routinely acted as critical components of wider control, communications, and support systems. Although fortlets could be articulated with the entire suite of Roman fortification types, they were often used alongside towers to build complex networks of installations. Assessing what these networks delivered is essential to determining why fortlets were employed, making their relationship with towers of major significance. Less is known about towers, because there are fewer eyewitness accounts of their use, they are frequently hard to date, and in most cases reconstructions of their height are entirely conjectural. Even so, they share one attribute with fortlets that seemingly distinguishes them from the other permanent installations constructed by the Roman army: so far as we can tell, no single individual would remain permanently stationed in either a fortlet or a tower; instead, they were manned by rotating detachments of soldiers that had been posted out from their home bases.

The following chapters examine how and why fortlets were employed from the first to the fourth century AD, and assess what combining them with towers achieved. For the purposes of this study, fortlets and towers will be collectively referred to as ‘outposts’. This deviates from the traditional application of the term more widely in Roman military studies, perhaps most famously to the ‘outpost forts’ held north of Hadrian’s Wall. Narrowing the definition to fortlets and towers alone is not due to the sense the word can convey of lonely sentinels in far-flung locales – although some sites are certainly worthy of this image – but because the term offers a particularly apt description of the itinerant nature of their literally out-posted garrisons. Although evidence will be drawn from across the Roman Empire, this study will focus on the area of north-west Europe corresponding to modern Britain, the Netherlands, Germany, France, and Switzerland. There is a dearth of ancient writing of all kinds directly relating to outposts in this region, but insights can be gleaned from the rich archaeological datasets, and amplified to remarkable effect using information furnished by the desert *ostraca* and other documentation. This approach promises to reveal how the army operated at a local scale by inserting modest garrisons into regions that were often home to sizable local communities. Despite an enduring fascination with the activities of Roman armies, this is a story that has rarely been told. It is not about winning set-piece battles, something that the military excelled at for centuries. Instead, it concerns a struggle the Roman state found harder to resolve: delivering day-to-day security and peace.

OUTPOSTS OF EMPIRE

Any discussion of Rome's security apparatus inevitably turns to, and sometimes does not venture beyond, discussion of the remarkable artificial frontiers that proliferated in the second century AD. These complex and phenomenally ambitious control systems drew on the panoply of existing military installation types and integrated them with linear obstacles to impose barriers where rivers, seas, or swathes of desert did not present a suitable surrogate. By the mid-second century AD the ancient orator Aelius Aristides could declaim, with judicious sycophancy, that 'An encamped army, like a rampart, encloses the civilised world in a ring . . . in all time there has never been a wall so firm. For it is a barrier of men who have not acquired the habit of flight' (*Roman Oration* 26, 80–84). That 'barrier of men' was achieved by employing fortlets and towers in greater numbers and more ingenious configurations than ever before. The sheer numbers involved, the large proportion that were built of masonry, and the fame of frontiers like Hadrian's Wall, the Antonine Wall, and the Upper German and Raetian *limites* have resulted in these fortlets and towers receiving the lion's share of scholarly attention. By far the most famous fortlets in the north-west provinces, and arguably the Empire, are the examples known as milecastles on Hadrian's Wall. Although this renown has elevated the milecastles to the status of literal textbook examples, the unprecedented degree to which they were shaped by the needs of the overarching frontier system also makes them the least representative example of fortlets currently known (Symonds 2013, 53). If the dynamics driving the adaptation of these installations is to be understood, it is essential to take a wider perspective.

By the time the first fortlets and towers were founded along artificial frontier lines, the Roman military had at least a century's worth of experience using them in north-west Europe. As such, the great second-century mural frontiers do not mark the beginning of the story of the Roman military's experimentation with fortlets and towers, nor do they represent the final word on the matter. Instead, they occupy the middle part of the narrative, ushering in what is seemingly the high-water mark of the *pax Romana* within the Empire's bounds. In order to set the frontiers in context, and glean fresh insights into the workings of these border systems, this book is separated into three thematic sections: consolidating conquest, border control and provincial collapse. Although there is some overlap between the time periods these cover, this approach reflects a rough distinction between early, middle, and late Roman imperial period approaches to outpost use. Inevitably, such partitioning runs the risk of creating or entrenching artificial divisions, but it is also essential if the evolution of deployment techniques is to be isolated and understood.

Despite a long-standing scholarly fascination with Roman fortifications, this particular field of study is not oversubscribed. Although many excellent

excavations of fortlets have been mounted, until now no single book dedicated to the broader class has been published. It is fair to say that towers have elicited more attention, but in many cases this focused on their signalling potential. It is not the intention of this book to present an exhaustive account of the specifications of every fortlet founded in the north-west provinces, or even every group combining fortlets and towers. Instead, a series of case studies is employed to illuminate military strategies, while the design and distribution of selected sites are used as vehicles to explore the purpose of these installations and the nature of life within them. Such scrutiny brings the individual building blocks of sophisticated surveillance, communication, and security systems into sharp focus. Surprisingly, perhaps, one corollary of adopting an unashamedly outpost-centric approach is that it delivers a satisfyingly cohesive account of the wider security situation in the north-west provinces. It also permits differing military responses to the trials of holding and consolidating territory to be identified, both in discrete regions and more broadly between Britain and Continental Europe. As such, fortlet use will be examined at both micro and macro levels. By clarifying what these garrisons could achieve in their immediate hinterland, and identifying differences in regional and provincial patterns of use, it is possible to chart the fluctuating fortunes of Rome's drive for security. In order to lay the foundations for this analysis, the remainder of this chapter introduces fortlets and, because of their significance to this study, towers, discusses why Roman armies needed them, and then uses contemporary documentary evidence to provide a taste of everyday life within fortlets.

WHAT IS A FORTLET?

It is an apt reflection of the modest attention fortlets have received that there is currently no universally accepted definition of what precisely constitutes one. This omission can seem surprising, given that they are one of only five installation types routinely employed by Roman armies in the west during the first three centuries AD.¹ Of these, fortresses, forts, fortlets, and towers served as permanent installations, while temporary camps were raised to provide overnight protection for armies on the march, defences for military construction teams, or even practise in the art of castrametation (see Welfare and Swan 1995; Davies and Jones 2006; Jones 2011). Comparing fortlets to the three other permanent fortification types provides a possible explanation for this lacuna in classification.

¹ Greater diversity occurred in the east, where the presence of sophisticated urban cultures allowed the army to adapt existing fortifications or cities, as well as constructing their own installations (Haynes 2013, 145).

Box 1: The Imperial Roman Military

From the first until the third century AD, the principal elements of Rome's land forces were the legions and the *auxilia*. The legions constituted Rome's iconic heavy infantry and recruited from among Roman citizens. The basic unit of a legion was a century, which comprised eighty men. These centuries were themselves formed of ten sets of eight messmates, known as a *contubernium*, a subdivision that is frequently visible in fortress – and fort – barrack blocks. There were ten cohorts in each legion, and each of these contained six centuries, except for the first cohort, which consisted of five double centuries. This produced a paper strength of 5,120, to which about 120 cavalry should be added (Goldsworthy 2003, 51–55). Tacitus states that twenty-five legions existed in AD 23 (*Annals* 4, 5).

The *auxilia*, literally 'helpers', were recruited from occupied territories, making them both one of the spoils of conquest and the engine that powered further expansion. Many such groups had specialist martial traditions, of which two clichéd examples include Bavarian riders and Syrian archers. Such ethnic stereotypes should not be accepted uncritically (Haynes 2013, 285). Auxiliary soldiers could serve in *alae* (cavalry units), infantry *cohortes*, and *cohortes equitantes* (mixed infantry and cavalry units). Infantry cohorts were divided into centuries, just like legions, but the cavalry consisted of *turmae* (Goldsworthy 2003, 55–58). A strength report from Vindolanda illustrates the danger of being dogmatic about notional unit sizes, and discloses how dispersed its members could be (*TV* II 154). By AD 23, the numbers serving in the *auxilia* were roughly equal to those in the legions, and would continue to rise (*Annals* 4, 5; Haynes 2013, 1).

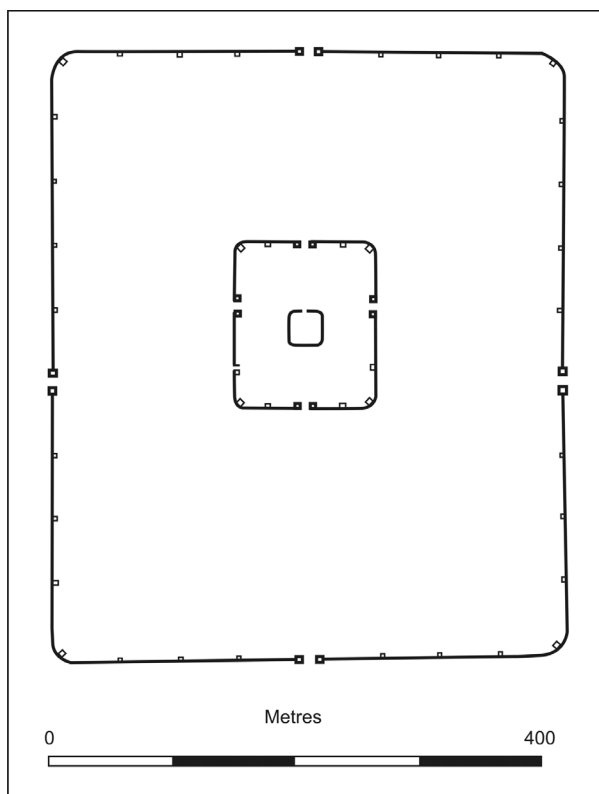
The third century was a time of financial and, in many parts of the Empire, military turmoil. By the beginning of the fourth century, the principal division in the military was no longer between citizens and provincials, but between field armies and frontier forces. The former, or *comitatenses*, were employed as a mobile force to fight set-piece battles, and enjoyed better terms of service. This has resulted in the static *limitanei* on the frontiers being perceived as somewhat second rate, although there is little justification for this prejudice (Collins 2012, 36–37). Unit sizes are believed to have been reduced substantially in the late Roman army, but their precise strength remains a subject of debate.

Forts and fortresses were designed to quarter, supply, and administer auxiliary units and legions respectively (see Box 1), and are celebrated for the 'playing-card' layout of their defences. As auxiliary units have a paper strength ranging from under 500 to over 1,000 men (Goldsworthy 2003, 57–58), while legions comprised more than 5,000, there was a substantial difference in size between these two installation types (Fig. 2). Vexillation fortresses occupy this middle ground and seem to have held an amalgamation of units forming battlegroups during the conquest period. These have been described as 'special groupings which cut across the regimental arrangements of the Roman army',

but they neatly illustrate that such bases were not always designed with a single unit in mind (Bidwell 2007, 26–27). Indeed, the difficulty of reconciling the quantity of accommodation in some auxiliary forts with known unit sizes has been taken to imply that they may have held either elements of two or more different units, or only a substantial portion of a single unit (Hanson 2007, 655). Even in such cases, though, the fort presumably served as the formal headquarters for many, if not all, of the soldiers brigaded within its walls. Although no two forts or fortresses are identical, the replication of interiors containing standardised building stock laid out according to a generic template created a broad similarity in style. The same is true of towers. Although, as will be discussed, towers came in a variety of shapes and sizes, the essential format remains constant. The upshot is that fortresses, forts, and towers all have core attributes and a distinctive character, which makes it relatively straightforward to distinguish between them.

Fortlet designs are less predictable. This diversity is probably a consequence of individual installations being essentially bespoke compositions, tailored to the tasks that their garrisons were expected to undertake and constrained only by the range of roles that modest numbers of soldiers were deemed capable of fulfilling (Symonds 2015a, 82–84). As has been noted, all of those on duty in fortlets appear to have been temporarily posted away from their home forts or fortresses. The resulting garrisons appear to vary in both size and composition, presumably in accordance with the manpower and range of martial skills judged necessary to deliver the desired outcome. Naturally, this approach would require individual fortlets to hold varying quantities of barrack accommodation. Further diversity ensued from the occasional provision of specialist ancillary buildings, such as granaries or workshops. The need for these additional facilities, as well as numerous other design refinements, was presumably also dictated by operational requirements. This apparent willingness to tailor the fortlets to local needs generated a wide variety of internal sizes and layouts. Tellingly, perhaps, the closest parallel for this flexible approach to design lies not among the other permanent installation types, but the temporary camps. The internal areas of these ‘disposable’ fortifications vary even more starkly, in line with the size of force the camps sheltered. A further parallel is apparent in the distribution of the camps, which were only constructed where armies or construction parties needed accommodation, or soldiers undertook training. A comparable, demand-based approach to deploying fortlets is suggested by their known frequency. This fits, both geographically and chronologically, with fortlets only being constructed where and when they were actively needed, rather than as an automatic by-product of conquest (Symonds 2015a, 84).

In most cases fortlets are immediately identifiable by virtue of their size (see Fig. 2), but the degree of design flexibility has hampered attempts to determine



2 A sense of proportion: the superimposed ramparts of the legionary fortress at Caerleon, the auxiliary fort at Wallsend, and the small, internal fortlet enclosure at Old Burrow.

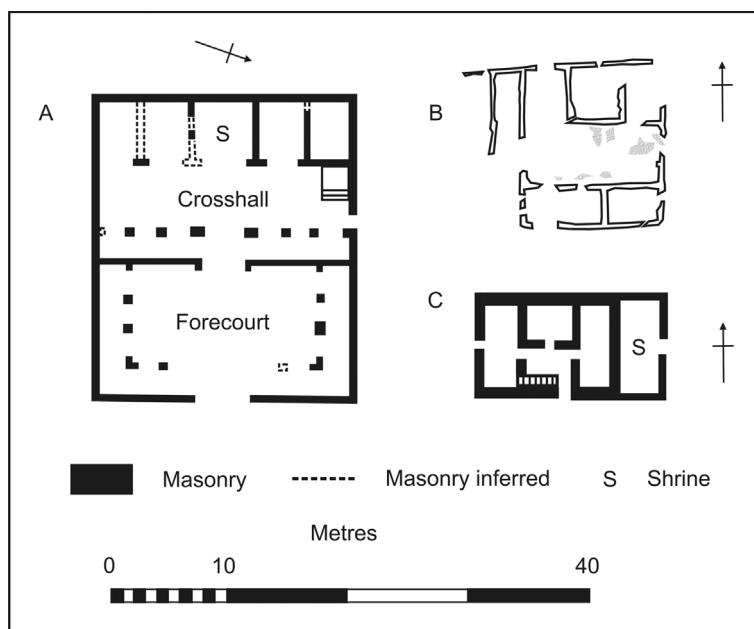
a clear-cut distinction between forts and fortlets. While the smallest fortlets enclose areas of less than 200m^2 , a handful of the very largest have internal areas of more than $4,000\text{m}^2$ (Walker 1989, 91–93), bringing them into the size range of small forts. Attempts to distinguish between small forts and large fortlets generally follow one of two approaches. The first advocates a literal interpretation of the modern English, German, French, and Danish names for these installations, which all carry a consistent connotation: fortlet, *Kleinkastell*, *fortin* and *mini-kastell*. Such terminology casts fortlets as, literally, small forts (see Jones 2015, 931). It is in this spirit that attempts have been made to establish an arbitrary size cut-off between forts and fortlets. One obstacle is the absence of an obvious point at which to draw the line, resulting in Mackensen (1987, 69) proposing a maximum size of $2,000\text{m}^2$, and Walker (1989, 105) one of $4,150\text{m}^2$. The latter figure owes more to the dimensions of the Antonine Wall fort at Rough Castle than any notion of how fortlets themselves were organised and used. Such a methodology also raises the question of why, if the distinction between forts and fortlets is one of size rather than function, separate terms are needed at all.

In order to resolve this ambiguity, Frere and St Joseph devised an alternative means of distinguishing forts from fortlets by focusing on the presence or absence of a particular building type:

the distinction between a (small) fort and a fortlet has been defined by the absence of an administrative headquarters building (*principia*) from the latter. A military site, however small, which was occupied by an independent unit with its own administration, is a fort; the garrison of a fortlet lacked its own administrative apparatus, because the troops comprised a detachment from a unit whose headquarters was elsewhere.

(Frere and St Joseph 1983, 135)

The *principia* was a monumental complex that lay at the physical and ritual heart of a fort or fortress. It comprised a basilica-like crosshall, offices, and an open-air forecourt, and provided a suitably grandiose setting for the *aedes* (shrine), which housed the standards that Webster (1998, 133) called ‘the soul’ of a unit. The layout of a fort or fortress reinforced this significance, with the *aedes* usually aligned on the principal entrance: the *porta praetoria*. One reason why Frere and St Joseph’s definition has not been widely adopted is that examples of *principia* have been proposed within some fortlets. Two prominent examples include the possible headquarters buildings in the fortlets at Tisavar, Tunisia, and Castleshaw, Greater Manchester (Fig. 3; Walker 1989, 106;



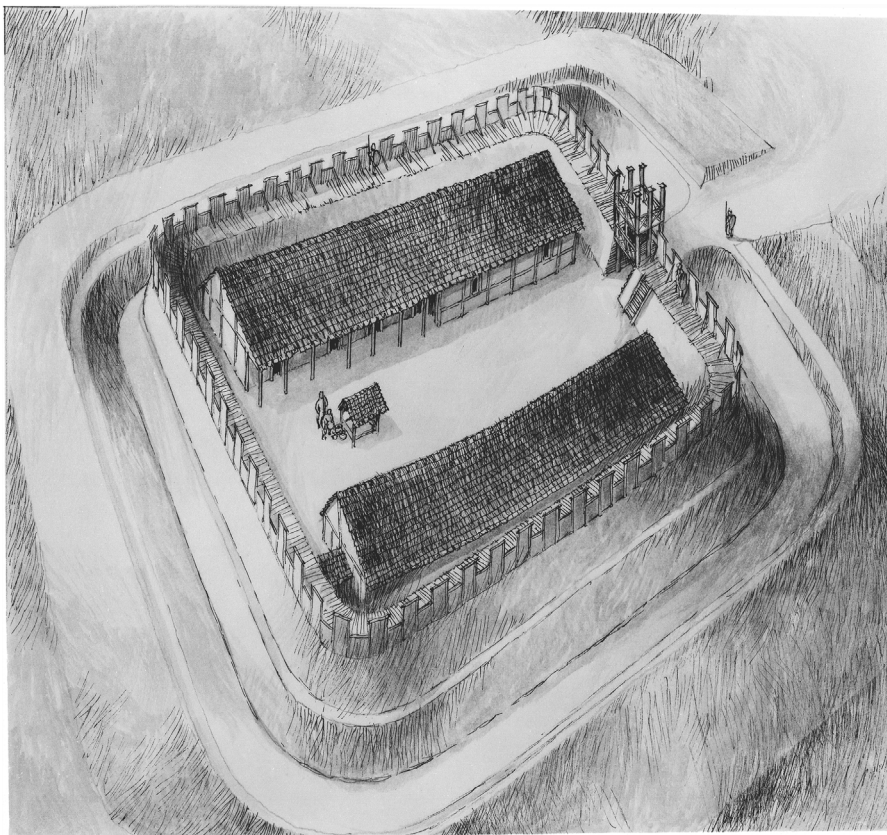
3 The *principia* in the fort on Hadrian’s Wall at Housesteads (A), compared to two structures that have been identified as possible *principia* in the fortlets at Castleshaw (B) and Tisavar (C).

After: Bosanquet 1904; Walker 1989; Mackensen 2010

Mackensen 2010, 464). In both cases these identifications can be claimed as a case of mistaken identity. The Castleshaw structure has also been interpreted as a possible workshop, commander's quarters, and *mansio* (Redhead 1989, 62–65), while the central building at Tisavar is likely to be the ground floor of a multi-storey, tower-like structure (Gombeaud 1901, 88).

Rejecting the presence of a formal *principia* within fortlets should not be taken as suggesting that none of the bureaucratic and ritual functions ascribed to this space occurred within fortlets. There is ample evidence for their garrisons generating and circulating military correspondence, and at least some fortlets contained shrines (Reddé 2006, 248–251; Reddé 2015). A distinction should be drawn, though, between dedicated spaces for managing day-to-day military bureaucracy and a garrison's spiritual needs and a formal *principia*. Whether a fortlet garrison would qualify for their own standard is unclear, but it is possible they received a *vexillum* – a flag issued to detachments. A hole to receive such a standard has been claimed in a podium excavated within a shrine in the Eastern Desert *praesidium* at Iovis (Reddé 2015, 42–43). If correctly interpreted, this neatly illustrates that fortlets could contain both administrative space and an *aedes* holding the detachment flag without requiring a monumental *principia* complex. Admittedly, applying the Frere and St Joseph definition following the changes to fort fabric during the late Roman Empire is more challenging (see Box 1 and p. 178). Even so, as nothing that truly resembles a formal *principia* has yet been detected within an installation that is otherwise indicative of a fortlet, the distinction seems viable.

This approach effectively establishes a distinction between not only forts and fortlets but also the four permanent installation types commonly used by Roman armies. As we have seen, forts and fortresses can be thought of as home bases for army units, or at least substantial portions thereof, while fortlets and towers were the preserve of rotating detachments of troops. Naturally, soldiers based within forts and fortresses did not simply reside within the ramparts until they were needed. A famous unit strength report from Vindolanda, Northumberland, revealed that more than half of the unit was engaged on duties away from the fort (*TV* II 154). Daily duties in the fort environs, detachment en masse to an urban centre or different fort, or secondment to a prestigious office would, though, have been a very different experience to outpost duty. That typically seems to have entailed individuals being separated for a period of months or years from their messmates and the lives they had built at their home base (see Breeze 2015a) in order to man a small, Spartan-like and often distant post. The corrosive effect that fragmenting a unit could have on morale presumably spurred Emperor Trajan's maxim that 'as few soldiers as possible should be withdrawn from their standard' (Pliny *Letters* 10, 20). As such, Frere and St Joseph's definition is tantamount to not only a functional difference but also a psychological one for the soldiers comprising the fortlet garrison.



4 A reconstruction drawing of the Antonine fortlet at Barburgh Mill. The fortlet has a single gateway, while two structures interpreted as barrack blocks face each other across an internal yard.

Credit: David J. Breeze and M. Moore

Unlike forts and fortresses, which were fossilised in stone once the military situation stagnated, fortlets rarely became permanent fixtures of the provincial landscape. In north-west Europe, fortlets were usually initially constructed of turf and timber (Fig. 4), and it is only along the frontiers that stone examples are widespread, either because they were built that way from the start, or because they remained in operation long enough to require a masonry rebuild. Elsewhere, the sparse finds assemblages usually indicate an occupation of a few decades at most before the installation was decommissioned. This fleeting utility is presumably a consequence of garrisons being deployed to achieve specific objectives and either withdrawn when these were accomplished, or replaced by a larger force if they proved inadequate to deliver the desired outcome. As such, the presence or absence of fortlets inside Roman territory should serve as a barometer for the local security situation. At its crudest, the curtailing of permanent military oversight ought to signal waning concern,

while a wave of fortlet construction long after a region was initially pacified implies a deteriorating security situation (Symonds 2015a, 83).

The notion that embedding a group of soldiers within the landscape was the core purpose of a fortlet is reinforced by the most common term for them in Egypt: '*praesidia*', which can be translated literally as 'garrisons' (Maxfield, cited in Abraham et al. 1998, 301). Whether the Roman army considered the fortifications that we call fortlets to be a discrete installation class remains an open question, although the use of '*praesidium*' does seem to have enjoyed a wide currency. An inscription series of AD 185 from Intercisa on the Danube refers to *praesidia* in a context that implies outposts (*CIL* 3, 297–303) and the word also appears to denote fortlets in the *Antonine Itinerary*, a document probably compiled in the early third century (Visy 2009, 989; Breeze 2011, 6). In North Africa the term occurs on inscriptions, although it may have been superseded by '*centenarium*' in later centuries (Rushworth 2015, 136). Other names for outposts certainly existed, including '*praetensio*' and '*burgus*'. Vegetius intimates that the latter is a small fort, but it is often applied to late Roman towers by modern scholars, with concomitant scope for confusion (*Epitoma rei militaris* 4.10; Bechert 1979, 19–20; Hodgson 1995, 65). These names may reflect chronological, geographical, or design differences, but it is equally likely that this variety is simply an incidence of the Roman penchant for applying terminology frustratingly loosely (see James 2011, 29–30).

WHAT IS A TOWER?

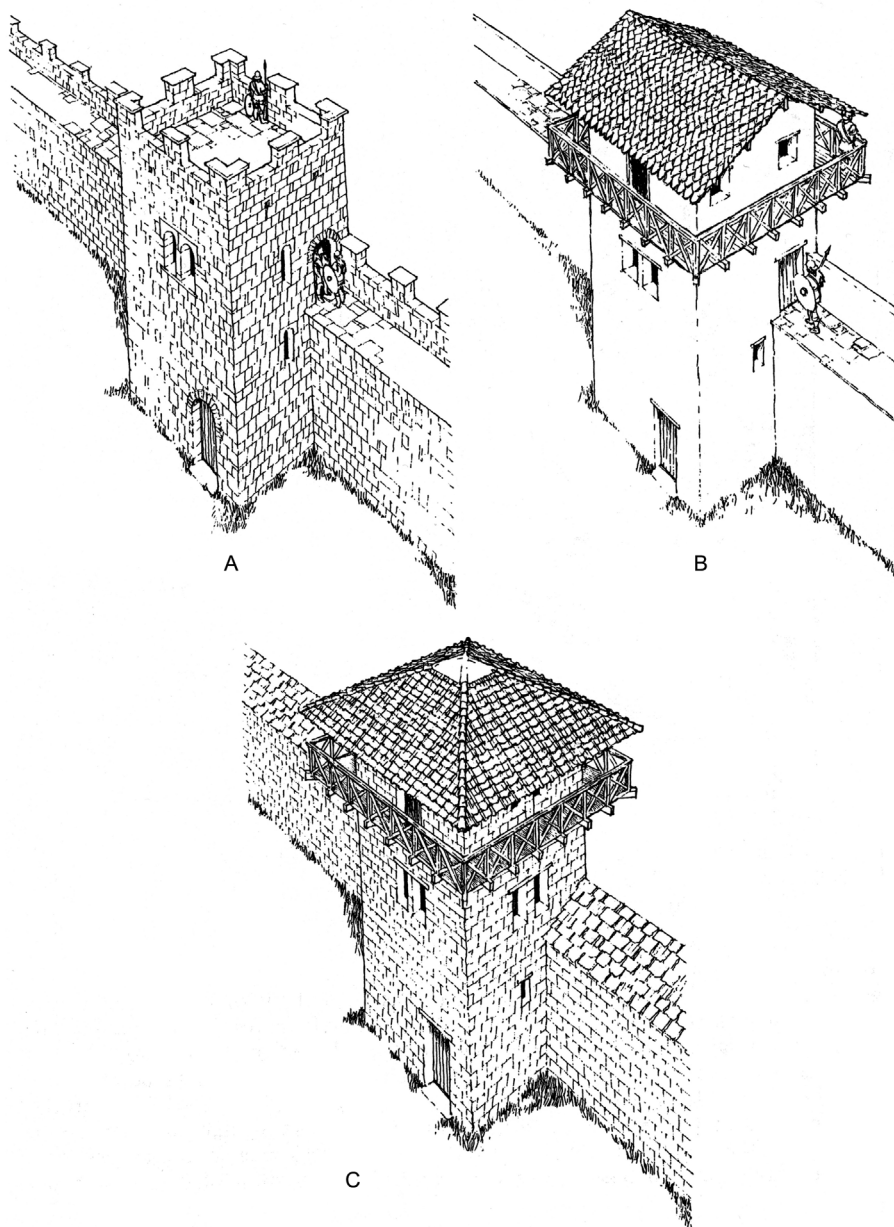
We are all familiar with towers, so at first glance this appears to be a less incisive and contested question than the nature of a fortlet. Elevated platforms remain a staple of modern military control systems, while the format has been widely employed in vernacular and ecclesiastical architecture, for motives that range from enhancing security to commanding a sufficient impression on viewers. Despite this versatility, the simplicity of the core concept of a tower seemingly leaves less scope for the experimentation and mission-specific design tweaks apparent in fortlets. In the first three centuries AD, it is rare for the footprint of a tower to deviate from a modestly sized square, rectangular, or occasionally more exotic geometric shape, often set within a ditch. During the heyday of the towers' scale and sophistication in the late period, differences can include a larger footprint, more substantial masonry, casemate rooms, or post pads intended to receive a timber frame. Even in earlier centuries the veneer of uniformity can prove deceptive. A full-blown tower is often referred to as a '*turris*', while the more rudimentary raised platforms built along the Myos Hormos road in Egypt are called *skopeloi*. These stand 3m or more above ground level and consist of a solid core clad in masonry (Fig. 5; Brun et al. 2006, 207). In the north-west provinces, many first- and early second-century



5 Two components of the chain of *skopeloi* established along the Myos Hormos road. Credit: Dylan Bickerstaffe

towers were supported by stout timber uprights. In some cases, the area beneath the platform was enclosed to create a ground-floor room, while in others this appears to have been dead space.

Little is known about the original height of most towers or the design of upper elements (Fig. 6). Almost certainly these features would have varied depending on factors including the local topography, the purpose of the tower, and the availability of raw materials. The scale of our ignorance is demonstrated by the plethora of physical reconstructions commissioned along the German *limites*, no two of which are identical (Dobat 2015, 354). It is generally assumed that most early towers stood to a height of c. 10m or less, but perceptions of this are highly susceptible to academic fashion. This is neatly illustrated by the famous Alan Sorrell reconstruction drawings of Hadrian's Wall, which display a chain of squat, battlemented turrets stretching towards the horizon. Such a vista is seemingly supported in part by the depictions of towers sculpted onto Trajan's Column in Rome. This monument features a continuous winding scroll presenting a remarkable visual narrative of the emperor's Dacian wars. It opens with a panorama of the Danube banks, revealing auxiliary soldiers beside squat towers bearing blazing signal torches. The height of these towers, though, appears artistically foreshortened to fit within the tapering band of the frieze as it unfurls from the Column base. As higher platforms have a greater utility (Crow 1988, 149), over time estimates of tower height have increased. At the same time, the gabled balconies and



6 These three reconstructions show different possible versions of the Hadrian's Wall turrets. (A) shows an open tower top with crenellations. (B) has a plastered exterior, gable roof, and timber gallery. (C) is closer in style to the towers on Trajan's Column.

By kind permission of The Society of Antiquaries of Newcastle upon Tyne, published in Dobson 1986, drawn by M. Moore

pyramid roofs crowning the towers on the Column began to eclipse crenellations in reconstructions. On the strength of reconstructions along the Upper German *limes*, there are currently tentative signs that the wheel of fashion is turning full circle and turrets without balconies are coming back into vogue.

Such discourse is not moot, as the height and upper furniture of towers are directly relevant to perceptions of purpose. The rationale for erecting a tower is normally associated with one – or all – of three needs: surveillance, signalling, or shooting missiles (see Donaldson 1988; Woolliscroft 1989; Foglia 2014). A sloping roof, for instance, would help to shield an observer from the elements and weatherproof the tower, but could interfere with volleys from archers, slingers, or artillery. Conversely, fixing an artillery piece to the top of an open tower in the north-west provinces would invite rapid degradation from the elements. Trajan's Column indicates that the potential dangers of combining a timber roof structure with a fire signal could be avoided by installing a torch projecting over the balcony. Incorporating such a balcony, though, risks weakening the upper fabric of the tower once the joists decay and need replacing. Archaeological evidence for upper elements, including roof tiles or slates, is usually scarce, although architectural fragments have been recovered from the Odenwald stretch of the Upper German frontier (see p. 163). Presumably tower superstructure varied in line with both established local preference and the tasks incumbent upon a particular garrison. Such flexibility would be entirely in keeping with the nature of fortlet ground plans. Like fortlets, the distribution of towers emphasises that they were not automatically established in the aftermath of conquest.

The size of tower garrisons and duration of their stay are also crucial to understanding how these installations functioned, although both factors probably varied. In normal circumstances the total number of soldiers is likely to have been very small, with three to six advocated for the towers on the Upper German and Raetian *limites*, while six soldiers have been suggested for the Hadrian's Wall turrets, albeit with only two on duty at any given time (Batz 1976, 43; Breeze and Dobson 2000, 41; Reuter and Thiel 2015, 121). How long these soldiers remained on watch is hard to gauge. Dividing the six men proposed for the Hadrian's Wall turrets into three shifts would have effectively made the garrison sustainable indefinitely, although the monotony of the posting would surely have quickly blunted both any enthusiasm for it, and the watchers' effectiveness. The recovery of querns from towers on the German *limites*, the presence of eight ovens at one site, and the substantial rations seemingly doled out to soldiers manning a Rhineland tower all appear to hint at an extended stay. This has been taken to point towards a tour of duty that lasted longer than a day, but 'no more than a few weeks, at most' (Graafstal 2007a, 32). Nevertheless, a daily rotation is conceivable. On Hadrian's Wall, for instance, ovens are found at forts and milecastles, but not turrets, and there is no reason why watch teams could not have used querns over the course of a brief but uneventful posting to prepare food for later. Naturally, such a short stay would inflict less disruption on a soldier's routine than a posting of months or years to a fortlet, although in some cases the

distinction is deceptive as those manning the towers were despatched from fortlets (see Cuvigny 2006b, 308).

The relationship between towers and the wider military infrastructure is also suggestive. While fortlets can be found 100km or so from the nearest known contemporary fort or fortress, first- and second-century towers typically lie close to larger installations, which would fit with garrison rotations occurring far more frequently. Although the small size of the Eastern Desert *skopeloi* could make them a special case, their design appears incompatible with a stay longer than a single shift. Naturally, there is no reason why a consistent strategy should have been adopted across the Roman Empire, and much probably depended on the whims of local commanders. Whether towers were operated throughout the year is also a matter of debate. It has been suggested that ‘full occupation in the winter may be doubted’ (Graafstal 2007a, 33), but this is also the period when soldiers in fixed locations could be most valuable. Although armies usually avoid campaigning during the winter months, the reduced hours of daylight could provide opportunities for raiders and bandits. If river borders froze, it would be desirable to have any posts on their banks manned, as even armies crossed at such times. Equally, one of the motives for laying roads with all-weather surfaces was presumably to use them year-round. If supply convoys were active during the winter months, any local food shortages could make such traffic a tempting target for hungry eyes.

INTERPRETING FORTLETS

The administrative and logistical challenges created by absenting soldiers from their units for extended periods were inherent to fortlet use. This, coupled with reluctance at the very highest level of the imperial hierarchy to fragment units, reinforces the implication from fortlet distribution that they were only founded where they were actively needed. Despite this, they are generally judged to be of limited utility and capable of only vaguely defined unary functions. They are often branded ‘police posts’, ‘signal stations’, and on artificial frontiers ‘guardposts’ or ‘fortified gateways’ (e.g. Clarke 1952a, 109; Fox and Ravenhill 1966, 3; Breeze and Dobson 2000, 33; Luttwak 2016, 74). Rather than applying these generic roles here, it seems more instructive to study fortlets in the context of the systems they operated within. To this end, they can be naturally split into two different categories: frontier fortlets, and freestanding fortlets that did not form a component of permanent border systems. This is not to suggest that the latter operated in isolation, but it does serve to distinguish them from installations that were adapted to fit the strictures of formal border systems. Inevitably, this division is not entirely clean and seeking to determine when precisely freestanding fortlets founded on riverbanks during a period of retrenchment morph into frontier fortlets if the

advance never resumed must involve a judgement call. Nevertheless, separating fortlets into freestanding and frontier models enables the design and deployment decisions made when they were commissioned to be compared with examples drawn from similar contexts, making patterns and anomalies more readily apparent. This, in turn, provides an insight into what they were intended to achieve.

Freestanding fortlets can be further subdivided into three groups, determined by their immediate setting: riverbanks, coastlines, and roads. This distinction emphasises the liminal nature of the environments in which they typically operated, be they watercourses, highways, artificial frontier lines, or a combination of these contexts. The suitability of these subsets to illuminate the development of deployment strategies and the degree to which context influenced design will be tested throughout this book. Archaeological data relating to fortlet use will be supplemented by written sources that outline the range of tasks the garrisons could usefully undertake. By far the most complete corpus of documentary evidence relating to this role is the material recovered from the Egyptian Eastern Desert. Attempting to apply insights gleaned from this to the north-west provinces does, though, raise the question of how representative the Egyptian *ostraca* are.

Using the Egyptian *Ostraca*

Maxfield (2005a, 201) has championed the wide relevance of the desert material, observing that it is of 'broader significance in the study of the day-to-day functioning of frontiers in general'. The *ostraca* from the Eastern Desert certainly display striking similarities in tone and content to the letters written on slivers of wood recovered from anaerobic deposits on the other side of the Roman world at Vindolanda, Northumberland (Bowman 2007, 638). Although this archive derives from an auxiliary fort rather than an outpost network, commonalities include keeping track of official and private supply, occasional infractions of discipline, inventive wheeler-dealing, maintaining a ledger documenting soldiers' duties and whereabouts, and even the habit of signing off letters with greetings to messmates.

Seeking to lift evidence from one province and use it to inform understanding of others could be construed as running counter to modern discourse emphasising the diversity masked by seemingly innocuous terms such as 'Roman' and 'army'. Using these words uncritically can create a misleading impression of uniformity. Referring to the servicemen manning fortlets as 'Roman' soldiers could, for instance, suggest that they were from Italy, or at least products of the Classical world. Instead, the Roman military, and in particular the *auxilia* (see Box 1), was ethnically diverse. The soldiers comprising the *auxilia* were often recruited from the very territories that, prior to their

incorporation within the Empire, were populated by groups that ancient writers branded ‘barbarians’. In such cases the distinction between ‘Roman’ soldiers and ‘barbarians’ exists more in the realms of oath-taking, training, pay, military discipline, and some of the accoutrements they wore, than in ethnicity or upbringing (Haynes 2013). Given that the members of fortlet garrisons in the Egyptian Eastern Desert – and probably elsewhere – appear to have been disproportionately drawn from the ranks of the *auxilia*, designating them ‘Roman’ obscures a wide spectrum of backgrounds. Nevertheless, despite the limitations of such terminology, it does serve as a convenient shorthand and it is hoped that readers will take a sagacious approach to the understanding of such labels.

Notions of a monolithic ‘Roman army’ have also been branded ‘pernicious anachronisms’ (James 2011, 22). Instead, the current emphasis is on the military comprising multiple provincial armies that lacked an overarching and integrated command structure, unless you count the emperor himself. Although elements of one army could be temporarily or permanently transferred to another, fostering a sense of interchangeability, it is clear that individual provincial forces cultivated subtly distinct traditions and practises (Haynes 2013). None of this emphasis on diversity, though, need negate the wider value of the Egyptian material, as this regional variation typically lies in the realms of deities worshipped or the popularity of particular forms of iconography. Rather than reflecting provincial fashions, the Egyptian evidence documents rational, individual responses to being plucked from a familiar environment and deposited in a zone where a multitude of new, everyday vexations exist (see Box 2). It is probable that many if not all of the broad sentiments expressed in the Eastern Desert *ostraca* were echoed wherever comparable circumstances existed.

Even if the desert documents capture the general spirit of outpost service, it is clear that these garrisons were especially – though by no means uniquely – distant from larger military bases. The far greater proximity of forts, fortlets, and towers along Hadrian’s Wall, for instance, would surely have had a material impact on the environment in which these soldiers served. Equally, the differences between a desert and temperate Europe make it self-evident that some specific concerns identified in the *ostraca* would not be universally applicable. The singular importance of water in the desert, for instance, is reflected in both the number of fortlets probably containing a central well and in soldiers engaged on tasks further afield requesting that their stocks be replenished. One *ostrakon* conveys a palpable sense of urgency: ‘Please send us water by the wagons because we are short and have nothing to drink, and please see that you send it quickly’ (M689). Securing fresh food for the cavalry horses was also a concern, with one correspondent despondent that ‘my horse has not eaten his fodder for five days’ (M147; Bülow-Jacobsen 2006, 404).

Box 2: The Egyptian Eastern Desert

This remote tract of land is sandwiched between the Nile valley and the Red Sea. As well as a narrow belt of coastal plain, the terrain comprises the jagged peaks of the Red Sea Mountains and, to the west, gently rolling desert. Today it is defined as an arid or hyper-arid environment, and sparsely populated by a nomadic population practicing pastoral agriculture. In the Roman period, both soldiers and civilians were present at stone quarries in the region (Maxfield 2001).

The Eastern Desert was also traversed by roads linking the Nile valley with Red Sea ports, which were important hubs for maritime trade with the East. During the Roman period, the *entrepôts* at Berenice and Myos Hormos were both accessible along roads commencing at Coptos, while a spur linked the Berenice–Coptos road to Edfu. Most of the *praesidia* that produced the *ostraca* referenced here line the Myos Hormos road, although Didymoi and Aphrodites Orous lie near the northern end of the Berenice–Coptos route.

It has been calculated that a camel caravan would take five days to travel the 181km from Coptos to Myos Hormos, a duration that falls within the span that these beasts of burden can go without water (Zitterkopf and Sidebotham 1989, 170). Eight *praesidia* and an estimated sixty-five towers were erected along the Myos Hormos highway (Fig. 5), while soldiers are also known to be present at two further locations: Phoinikon and Persou. This results in an average distance of 16km between the principal stations (Zitterkopf and Sidebotham 1989, 160, 169). The fortlet chain evolved over time, with its earliest installations probably founded in the Flavian period, while the latest may have been added in the late second or early third century. Internal areas range from c. 1,200 to 2,900m², although in most cases their size seems to be inflated by a substantial internal well (Fig. 7).

Whether the towers were used alongside the fortlets remains disputed, but a few contemporary pot sherds have been recovered and a document from one fortlet refers to sending soldiers to man the towers (the ‘coxa’ dossier: see Brun et al. 2006, 226–228; Cuvigny 2006b, 308). The system seems to have been abandoned in the third century, at around the time the harbour at Myos Hormos silted up. The *praefectus praesidiorum et montis Beronices* exercised overall command over the Eastern Desert zone (Zitterkopf and Sidebotham 1989; Maxfield 2005b; Cuvigny 2006b, 295).

Despite these worries conveying a sense of arid otherness, the essential inference that official supplies were fallible may well be more widely applicable. In a remote German fortlet, for example, the bulk of a garrison’s meat came from hunted game rather than domesticates, which could reflect shortcomings in military provisioning (Peters and Pöllath 1999, 160–162; see p. 46). Numerous other statements in the *ostraca* dovetail with the mute insinuations of the archaeological record in Britain and north-west Europe. One potentially important instance of this is the routine presence of horses in the Egyptian

praesidia matching the recovery of harness fittings from fortlets elsewhere, indicating the presence of a mounted element (Jilek and Breeze 2007, 208).

Similarities between the articulation of the fortlet and tower network in the Eastern Desert, and those established in parts of Britain are also suggestive. Indeed, the very existence of a network dependent on horses in the desert, when camels would be easier to sustain, could indicate that this style of outpost system was devised elsewhere and adapted to, rather than designed for, desert conditions. Such cross-fertilisation of techniques would have been aided by the circulation of individuals as well as ideas within the Roman Empire. One eminent example is Titus Haterius Nepos, who became Prefect of Egypt in AD 120, but had earlier – perhaps in the AD 90s – served as *censitor* of the *Brittones Anavionenses*. This group apparently lived in Annandale, south-west Scotland (Birley 2002, 95; Hodgson 2009a, 15), a region that hosted developed fortlet networks in both the Flavian and Antonine periods. Twice in his career, then, and at opposite ends of the Empire, Titus Haterius Nepos's work required oversight of areas with sophisticated outpost systems. On the available evidence, the broad format of the Egyptian outpost systems will have been familiar to him, even if the temperature was not.

Fortlet Garrison Hierarchy

Another arena where the archaeological evidence and the Egyptian documents seems to converge is fortlet garrison hierarchy. The monumental architecture reinforcing military power structures frequently encountered in forts and fortresses is conspicuously absent from fortlets. A modest suite of rooms within Maximianon fortlet in the Eastern Desert is described as 'the corner of the commander' on an *ostrakon*, and resembles a miniaturised version of a centurion's quarters in a fort barrack block (Reddé 2006, 248). Elsewhere, candidates for such accommodation are frequently ambiguous and in some instances no distinction in living space is discernible. This comparatively egalitarian architecture reflects the shallow hierarchy operating within the fortlets. Although no commander's rank is attested in Britain, the *ostraca* attribute this role to a *curator*. This is not a rank in itself, but rather the title awarded to the soldier commanding the detachment (D. J. Breeze pers. comm.). Several official circulars from Egypt address the military hierarchy in descending order, with the *curatores* occurring at the end of the list. The implication that these soldiers ordinarily occupied lowly positions in the command structure is confirmed by the single example of a *curator* whose rank is explicitly stated: Rufus, a *signifer* or standard bearer. Other *curatores* conceivably include a *tesserarius* – the keeper of the daily watch word – and even an ordinary cavalryman (Cuvigny 2006b, 314–315; 2012a, 44). A further *curator* is described as simply 'of the century of Bassus' (*I.Pan.* 51), rather than by rank, implying that he may be an ordinary

infantry soldier. Although a *signifer* and *tesserarius* were low-ranking officers and so would be familiar with issuing commands, throughout the tenure of their command all of these *curatores* would exercise far more autonomy than usual.

There are signs that this stunted hierarchy fostered a distinct environment to that within a fort. On a prosaic level, Jim Crow concluded from his excavations at Housesteads fort and milecastle 39 on Hadrian's Wall that the latter was kept noticeably less tidy (Crow pers. comm.). A more salacious example of an informal approach is presented by an *ostrakon* penned by Longinus, *curator* of Aphroditēs Orous, who sought to co-ordinate the hire of a prostitute to be shared among his men. On a sherd dumped in the early second century he wrote:

...to Kilikas, his brother, greetings. The men at the *praesidium* asked me to write to you concerning your girl who makes you 60 drachmas. Send her and I shall take care of the money, or send me an answer and I shall send you the money...

(*O.Did.* 430)

Reports that some *curatores* were not above abusing their authority also occur in the documents. In an *ostrakon* discarded in the mid second century, Kalo-kairos complains to Kronios that 'the *curator* of Didymoi took the baskets and what is in them. Appeal to the prefect so that you may get them back' (*O.Did.* 449). In c. AD 219 a missive was sent to Valerius Appollinaris, *procurator Augusti*, seeking to explain why Isidoros, *curator* of Didymoi, was absent from his post (*O.Did.* 40). Such problems seem rare, though, and there is no reason to believe that the majority of *curatores* were less than diligent. Nevertheless, many of these commanders were probably comparatively inexperienced. The ancient author Suetonius reported that Emperor Tiberius likened life as *princeps* to 'holding a wolf by the ears' (*Tiberius* 25. 1). This metaphor is seen as an apt analogy for controlling Rome's soldiers (James 2011, 26), and the success of many fortlets will have depended in part on how quickly the *curatores* learnt to take their wolves in hand.

Why Build Outposts?

Perhaps the most obvious answer to this question is that a tangible but elusive threat to military interests existed. Perceptions of its scale vary considerably. A first-century fortlet founded on the Exmoor coastline has been explained as a response to fears of an amphibious assault by a hostile tribe, while late-third-century examples in Continental Europe have been seen as measures to help repel invading forces (Fox and Ravenhill 1966, 25; Barfield 1968, 55; Luttwak 2016, 154). One problem with seeking to counter full-scale armies using fortlet garrisons is that they would be easily overwhelmed. Attempting to resolve this

discrepancy by suggesting that ‘their small garrisons were regarded as expendable’ is questionable (Fox and Ravenhill 1966, 26). While it is surely true that the military could accept the occasional loss of an outpost garrison, it seems highly unlikely that small, dispersed groups would be routinely deployed during bouts of open warfare that they were powerless to influence. Fortlets and towers are better understood as a calculated response to threats that small groups of soldiers were deemed capable of neutralising (Symonds 2015a, 84).

It has been observed that ‘throughout the era – even under the famed *pax Romana* – armed robbery, murder, banditry and brigandage were endemic. . .’ (James 2011, 21). Against such a backdrop, the very presence of professional soldiers may have deterred groups motivated by profit – and their continued existence in order to enjoy it – rather than ideological objections to imperial suzerainty (Symonds 2007, 42). If the insertion of outposts did not in itself curtail disruption, then the number of soldiers present was presumably judged sufficient to destroy or disperse the anticipated threat. The trick was finding the perpetrators in the first place, but establishing outposts in trouble spots simplified this by forcing them either to come to the garrisons or cease launching attacks nearby. Small, dispersed detachments would also advance military agendas in other ways, including aiding the rapid transmission of military correspondence, and extending support to official traffic. Soldiers were also able to circulate details of hostile activity in the locality, providing an invaluable source of military intelligence (Austin and Rankov 1995, 170–173). Only scraps of such reports survive today, but they are encouragingly consistent about the nature of the disruption that could occur in areas occupied by the Roman army.

A renowned late-first-century writing tablet from Vindolanda fort provides an appraisal of the Britons’ martial abilities:

...the Britons are without body armour [or naked?]. There are very many cavalry. The cavalry do not use swords nor do the wretched Britons (*Brittunculi*) mount in order to throw javelins.

(TV II 164)

Although it remains unclear whether this is a critique of local levies or an account of enemy activity, the Britons’ reliance on cavalry would fit with the hit-and-run tactics often resorted to by practitioners of asymmetric or ‘guerrilla’ warfare against a militarily superior adversary. Such a report would present a natural companion to the accounts of skirmishes relayed to central bases in Egypt and then both passed up the chain of command and circulated as required to the wider fortlet network (See Cuvigny 2006b, 327–329). A fragmentary example of a combat report from an Egyptian fortlet is dated to 10 December AD 108 and also documents an encounter with mobile adversaries:

Fifty (?)camels [having been stolen] by 18 barbarians [...] the wells (?) of Claudianus and I have pursued [with?] three horsemen and infantry [...] through impassable areas and we fought them. Lucretius Priscus [was killed?], cavalryman of the cohort [...], turma of Sosinius; [unknown] was hit with a club, of the same cohort, turma of Iust[...] But, surprised during the night [...], we retreated to the fortlet [...].

(*O.Krok.* 6)

Allusions to conflict with modest numbers of ‘barbarians’, who might more accurately be styled ‘raiders’, can be found in various sources. The wording of an altar inscription found in Hexham Abbey, Northumberland, and probably taken from the fort at Chesters (Bidwell 2010, 77–78), evokes just such a scenario: ‘...Quintus Calpurnius Concessinus, prefect of cavalry, after slaughtering a band of *Corionototae*, fulfilled his vow to the god of most efficacious power’ (*RIB* 1142). The *Corionototae* are otherwise unknown (Birley 2002, 51), and the general tone of the dedication would fit with the destruction of a raiding party, rather than a set-piece action during a full-scale battle. The second-century inscription series from Intercisa on the Danube is more explicit about the nuisance of cross-border criminality. The text furnishes unusual detail about the purpose of the installations the inscriptions were intended to embellish, and invites suspicions of a PR exercise by crediting the Emperor Commodus with:

...fortifying the entire riverbank with *burgi* constructed from the ground, and *praesidia* stationed at advantageous places against the clandestine crossings of bandits (*latrunculorum*).

(*CIL* 3, 300)

Using the dismissive diminutive ‘*latrunculi*’ to describe these brigands (Mócsy 1974, 196), evokes the belittling of the ‘*Brittunculi*’ in the Vindolanda tablet and suggests that such groups were seen as irritants. But regardless of whether they were deemed worthy adversaries, such low-intensity threats had to be dealt with. The sources referenced above, along with others in a similar vein, imply that raiding and violence perpetrated by small groups was a feature of many frontier zones.

In the case of the Intercisa inscriptions at least, it is clear that outposts were seen as an appropriate means to neutralise such disruption. What is more, the short lifespan of many freestanding fortlets and towers implies that small detachments were an effective means of permanently curtailing hostile activity.

BANDS OF BROTHERS?

Naturally, a soldier being sent to a post that only exists because there is an active threat to military interests will have an opinion about his posting. Reports and

letters circulating in the Egyptian Eastern Desert make it clear that soldiers were killed and injured in combat, women and children who were presumably their dependants could be abducted or slain, and people fell ill. The numbers involved do not appear to be great, but in sum they create a palpable impression that the frontier zone was an area of heightened personal risk. This seems to be reflected in euphemistic references to ‘coming up’ and ‘going down’, which are employed to express the transition from duties in the Nile valley to the desert frontier zone (Cuvigny 2006b, 298). It is a sentiment that is remarkably similar to the vocabulary used by Oxbridge students to describe arriving at and leaving university, and serves to conjure a sense of ‘the other’. Cumulatively, though, the ancient sources disclose that ‘coming up’ is rather more pleasurable for modern undergraduates, as numerous *ostraca* betray reluctance among the soldiery to either ascend to, or remain within, the frontier zone. Doubtless the deprivations accompanying desert service contributed to this. This section draws on evidence from Egypt and elsewhere to provide a flavour of what soldiers embarking on a tour of fortlet duty could experience.

Those selected for outpost service appear to have received some forewarning that they might form part of a relief party (Cuvigny 2006b, 311–312). This knowledge sometimes prompted soldiers to write to a contact in an attempt to persuade them to intercede and secure a particular posting. In one case the correspondent requests simply that ‘if the Prefect rises, speak in my favour for me to stay at Maximianon’ (M54). In another case the author appears to advocate a more direct means of achieving his wishes. He writes:

I will address an urgent request to you, my lord, I sent Longinus with a word for the *tesserarius* and he said that I am going up. See how you can make me transfer to you. Whatever you spend, I will repay to your entire satisfaction.

(O.Krok. 95)

This cryptic reference to expenditure is most easily explained as an exhortation to bribery (Cuvigny 2005, 162). That the author is effectively prepared to write a blank cheque implies that he considers it money well spent. The inference that not all fortlets were equal is made explicit by Iulius in a letter to a comrade, encouraging him to seek permission to join Iulius because ‘this is a better *praesidium*’ (O.Did. 326). Whether Iulius ascribes this superiority to the state of the building stock, the ambience created by the garrison members, or it simply smelling less like an open sewer is left to the imagination. Indeed, Iulius’s enthusiastic language invites the suspicion that he protests too much. Even so, that such a statement could have traction emphasises that some fortlets were considered more desirable than others.

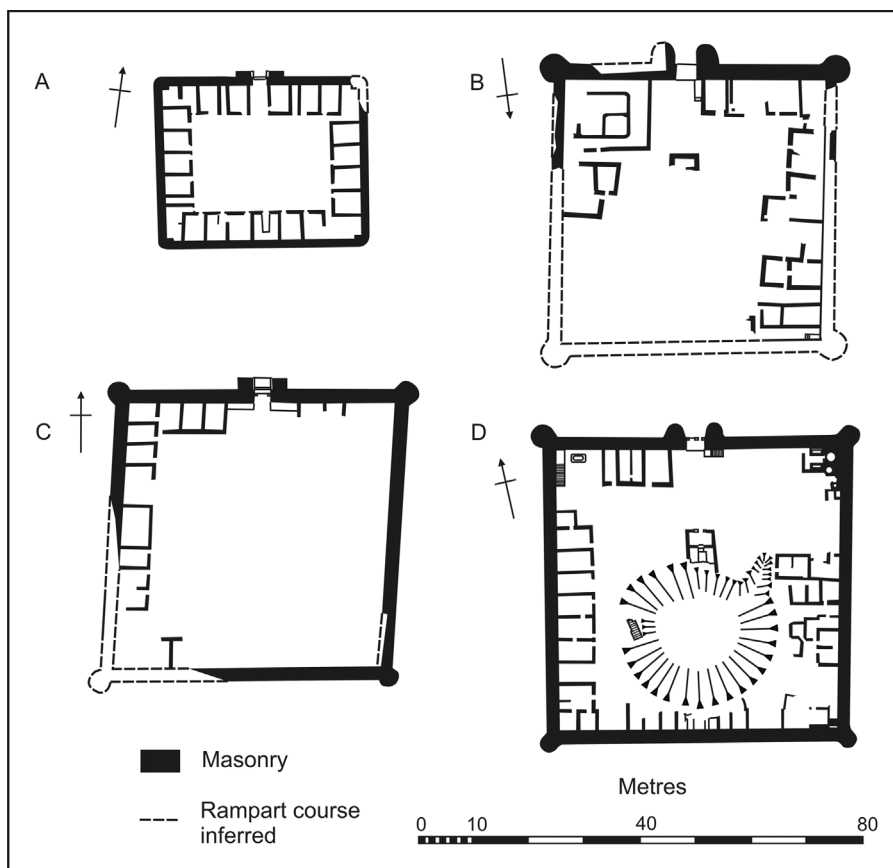
One reason why soldiers sought to secure the most favourable posting possible is that they could be in residence for a considerable period. Analysis

of the finds from fortlets has identified that these installations, unlike towers, produce small quantities of fittings and keys associated with trunks, indicating that personal effects were transported to them (Jilek and Breeze 2007, 212). Documentary evidence from Dura Europos implies that soldiers could be in outposts for a matter of years, while Satornilos wrote to his mother in Egypt to inform her that he might be sent on an eighteen-month posting. At the other end of the scale an inscription in the Eastern Desert gives thanks for a five-month tour of duty (Breeze 1977, 4; *P.Mich.* III 203; Cuvigny 2006b, 311–312). As we have seen, what little evidence is available for the towers suggests that their occupants were rotated far more rapidly.

Home from Home?

Upon arrival in a fortlet, the soldiers comprising the relief force were not guaranteed a warm reception from their new comrades. One old hand commiserated Arius about the novices he was presumably serving alongside and advised: ‘you are quarrelling about nothing. You are a veteran and they are recruits. You should teach them...’ (*O.Did.* 362). This also raises questions about the calibre of some soldiers selected for outpost duty. In another instance, a personality clash ensued when Sertorius discovered that the awkward reputation of a soldier from the same maniple as his correspondent was well-deserved: ‘Since I came up here ... this *commanipularis* of yours, wages war on us by giving false evidence’ (*O.Did.* 325). At the other extreme, four soldiers who seemingly developed a strong bond were parted. Regarding the incident, Bassus wrote that ‘I, too, am disheartened since the two, Apuleius and Herianus were moved away from me, but nevertheless, we must bear it bravely. The Gods willing, we shall kiss them again’ (*O.Did.* 424). As Bülow-Jacobsen (2012, 360) observed, ‘our curiosity as to the exact nature of their friendship must remain unsatisfied’. Nevertheless, the lavish tombstone that Numerianus, a cavalryman, raised to his freeman Victor at South Shields fort, Tyne and Wear, suggests that homosexuality was not unknown among frontier garrisons (Allason-Jones 2009, 149). These *ostraca* imply that fortlet detachments did not comprise established *contubernia* that were simply transplanted from their home fort. Instead the soldiers were drawn from multiple sources, making the ensuing mix of personalities something of a lottery.

Attempts to deduce garrison sizes mostly rely on comparing the dimensions or design of barrack blocks within fortlets to those of infantry barrack blocks in auxiliary forts, which are believed to hold eighty soldiers. In most cases the results provide a rough impression, at best, of the actual numbers involved, but they do indicate that detachment numbers were determined by the task in hand, rather than by pre-set guidelines. Estimates of garrison size generally fall between eight, in some Hadrian’s Wall milecastles, and eighty (Breeze and



7 Four of the fortlets on the Myos Hormos road: (A) Qusûr Al-Banât; (B) Krokodilo/Al-Muwayh; (C) Bi'r al-Hammâmât; (D) Maximianon/Al-Zarqâ.

After: Cuvigny 2006a

Dobson 1972, 188–189; Breeze 1977, 1). These numbers are underpinned by fortlet barrack blocks that bear a strong resemblance to an individual eight-strong *contubernium*'s quarters and an entire auxiliary fort barrack block, respectively. Without such overt archetypes, precision is impossible, as illustrated by the barrack blocks in Martinhoe fortlet, Devon, which different scholars have judged appropriate for twelve, forty, and sixty-five to eighty men (Fox and Ravenhill 1966, 23; Mackensen 1987, 73; Davison 1989, 126; see Fig. 8; Fig. 9 in Chapter 2).

Lists of soldiers' names and duty rosters from the Egyptian desert suggest that these fortlets held between fifteen and twenty-four men, although these numbers may only include the infantry, *curator*, and *tesserarius*. Factoring in cavalry and *immunes* – those excused fatigues because of their specialist skills – could result in total strengths of twenty to thirty soldiers (Cuvigny 2006b, 307–308). If correct, these garrisons are smaller than would likely have been calculated from the structural vestiges alone (Fig. 7). Latin, Libyan, and Dacian

names are recorded serving together at Krokodilo fortlet, while Latin, Dacian, and Greco-Egyptian names occur on a list of twelve soldiers from Didymoi (Cuvigny 2005, 18; *O.Did.* 64). One full-size auxiliary unit is known to have contained individuals from six different provinces, although it has been suggested this may be a consequence of wartime exigencies (Haynes 2013, 2). The apparent presence of soldiers drawn from three different provinces among much smaller detachments implies that such combinations were considered unremarkable.

It is clear from the *ostraca* that the fortlet garrisons comprised infantry and cavalry (Cuvigny 2006b, 308–310), with the cavalry providing escorts to mandated traffic, and also conducting patrols (Cuvigny 2006b, 329–332). Perhaps a more surprising use of riders was to convey rapidly official written messages from fortlet to fortlet. In the Egyptian Eastern Desert this was an essential part of the installations' *raison d'être*, and the *curatores* were expected to record when the mail arrived and who relayed it to the next fortlet. The efficacy of this system is reflected in its supplementary role to courier fresh fish, presumably destined for a senior figure's table, from the Red Sea to the Nile valley, a distance of 181km (Cuvigny 2005, 11–18). Although the fast-food might not have been as delectable, various British fortlet systems appear to be configured in a similar fashion. In the desert, the cavalry were also prepared to act as informal couriers – presumably for a price – for less august individuals. One private letter instructed the recipient to 'select me two suckling-pigs and send them with the mounted patrol' (*O.Did.* 416). In this way a parallel, unofficial means of supply grew up alongside and was grafted onto official military activity.

When acting as escorts or postmen the cavalymen only ventured as far as the neighbouring garrison, where replacements waited. This may also have been the typical arrangement for patrols. It has been suggested that 'their movements have a routine character poorly suited to the improvisation and flexibility one imagines of guerrillas' (Cuvigny 2006b, 330), although the hours when mail was relayed appear unpredictable, and patrols could presumably have been mounted at any time. There are certainly hints that garrisons were expected to accumulate knowledge about their hinterland. One *ostrakon* enquires about 'the dens and the tracks' of a raiding party (*O.Krok.* 49). In another, from the quarry workings at Mons Claudianus, a centurion informs the '*curatores of the praesidia*' that 'You will do well to give assistance to soldiers who present themselves on a mission of pursuit with two *tabellarii* until their arrival in Egypt'. These *tabellarii* presumably acted as local guides (*O.Claud.* II 357; Van Rengen 1997, 196–197).

The *ostraca* provide an insight into further duties that were and – seemingly – were not conducted by fortlet garrisons. Although it was once believed that taxes on travellers using the desert roads could be levied at the fortlets, there is

no sign of this in the *ostraca* (Cuvigny 2006b, 321, 332–333). Indeed, there seems to be very little engagement between the garrisons and non-official traffic. Those authorised to travel the desert road were issued with passes (Cuvigny 2012c, 117–118) and soldiers presumably checked that these were in order, but in general commercial caravans are rarely mentioned in the official *ostraca*. Naturally, though, they would benefit from the enhanced security along the road. A document from Maximianon fortlet assigns infantry to nearby towers, and also the four corners of the fortlet (the ‘coxa’ dossier: see Cuvigny 2006b, 308). Although the duty rosters from this fortlet have yet to be fully published, they take two forms. One comprises lists of soldiers allocated specific tasks, with individuals undertaking them one day in every three or four; the other divides multiple duties – none of them requiring cavalry – between twenty-two men, giving all of them something to do every day (Cuvigny 2006b, 307–308). Both methods of recording the partition of soldiers’ time imply that they enjoyed periods of relaxation.

Off-duty

Combining the archaeological and documentary evidence illuminates how fortlet garrisons wiled away their leisure hours. There is evidence for a range of productive endeavours, including crafts, hunting, and even animal husbandry, which could represent either official duties or private enterprise. Inevitably, though, not all of the soldiers’ pursuits were so wholesome. Stone gaming boards and counters indicate that gambling was a popular pastime (Jilek and Breeze 2007, 208). The consumption of alcohol is a recurring desire in the ancient documents, and in the wake of one boozy lunch a participant allegedly needed cajoling into remembering whether business to the tune of 60 drachmas was discussed. The situation has all the makings of a scam (*O.Did.* 343; Bülow-Jacobsen 2012, 342). That alcohol served as an escape of sorts from the deprivations of outpost life is supported by the frequent presence of amphora fragments in fortlets. Although these vessels could be used and reused to hold a range of goods, the original contents of one from Barburgh Mill, Dumfries and Galloway, are divulged by the inscribed letters: ‘VIN(VM)’ (Breeze 1974, 154). Despite the ambiguity of the archaeological evidence, it seems reasonable to suspect that some soldiers found themselves discharging their duties while nursing a hangover.

The Egyptian documents reveal that prostitution was rampant. In most cases it is discussed as a simple financial transaction, and often involved the prostitute and a female companion travelling to a fortlet – sometimes after brokering a lift from passing donkey drivers – and remaining there either for a set period, or until the next contract was arranged (Cuvigny 2006c, 387–389). Prostitutes frequently seem to have been hired on a monthly basis, with the cost split

among the garrison. As Cuvigny notes ‘this system probably required a sustained pace of work from the girl as, far from costing the client money, each pass lessened his investment’ (Cuvigny 2006c, 386–388). The local king-pin of the Myos Hormos road sex trade was Philokles, who was ordinarily resident at Krokodilo, where a fortlet garrison was based. Bülow-Jacobsen (2012, 295) styles Philokles as a ‘pimp and green-grocer’, an unconventional combination that reflects his entrepreneurial nous when it came to sensing a business opportunity. The absence of extramural settlement at Krokodilo has led to the suggestion that Philokles and his entourage lived within the fortlet (Cuvigny 2006c, 361). How acceptable this would be to the military authorities is debatable, and it is conceivable that extramural buildings at Krokodilo have been eroded away (Maxfield 2005b, 739).

Two *ostraca*, neither involving Philokles’s girls, provide poignant insights into the military sex trade. One, discarded c.115–140, states:

...I have given my wife into your care in order that you deliver her at the *praesidium* of Aphrodites Orous. If anyone should harass her, you will restore her back to me. The binding condition is that she is not permitted to lie with anyone without your consent.

(*O.Did.* 406)

This transaction predates a reform by Emperor Septimius Severus allowing ordinary soldiers to marry, so the lady in question was not the soldier’s wife in the eyes of the state. This prohibition did not stop unions occurring, but the lack of official status left the women and any children in a legally perilous position. That such relationships could be exploitative is ably conveyed by the contents of the *ostrakon*. It also implies that the writer – presumably a soldier – ordinarily lived with his concubine at the outpost. Another *ostrakon*, from the late first century AD, seemingly documents a situation in which the owner of a slave girl lent her to an acquaintance, but has grown concerned by her lengthy absence (Bülow-Jacobsen 2012, 251). The sign-off is a chilling reminder that combat was not the only cause of untimely death in the military zone:

If I feel like it I shall make you pay for the days that Iulia has let lapse. For I begged the whole *praesidium* in order that she came to you, for you were burning. And now, if you do not do your own thing, I shall take her from you even if you offer five minae. I hope she is alive.

(*O.Did.* 251)

Despite the distractions of duty and downtime, the soldiers would have built lives at their home forts and time did not simply stop while they were away (Breeze 2015a). Although at least some seem to have been accompanied to fortlets by partners and slaves, there is no doubt that these tours of duty could have personal consequences. A touching illustration of this is supplied by an *ostrakon* that seemingly captures the moment Veturius learnt he had become a

father. He appears to have been transferred back to his home base, and it has been inferred that the mother remained at the fortlet because she was too pregnant to travel (Bülow-Jacobsen 2012, 333), once again implying that they had lived together at the *praesidium*. The presumed father writes: ‘The moment I heard that you had given birth, I was delighted and I lit lamps to Aphrodite’ (*O.Did.* 402). But just as life arrived, so too it could be extinguished, and another *ostrakon* served to extend condolences: ‘That is why I’m writing to you, brave brother [. . .]. This does not happen only to you, but also to others before you [. . .]. Bear with courage the grief that afflicts you’ (M128).

A desire to return to the extended social circle, better facilities, and, doubtless, more extensive leisure options awaiting the soldiers at their home fort does not seem to have dissipated during their time at the fortlets. Attempts to garner information about when the relief was due appear in numerous *ostraca*, suggesting an eagerness to leave. In one case, Cassianus urges ‘if you learn something new about the relief, write to me’; in another, the author baldly orders ‘If you [learn] we are relieved, come with donkeys’ (*O.Krok.* 96, 97). Precisely how garrison rotation was conducted is unclear, but the surviving documents hint that sizable relief parties were sent up into the desert. Even so, it seems unlikely that entire *praesidia* garrisons were changed at a stroke. That would jeopardise the knowledge of the local physical and human geography accrued over the course of a posting, forcing the new detachment to start from scratch with, at best, a handover briefing or document to guide them. At the very least, briefly retaining the *curator* would allow a degree of continuity, but it is perhaps more probable that the rotation was staggered so that only half or so of any given detachment was relieved. As well as ensuring that there was a constant mix of old hands and newcomers, this could help explain why pre-existing *contubernia* were not simply transplanted from the forts: having the outpost garrisons arrive and leave together was actively detrimental to military efforts.

Although the preceding sketch of garrison life drew heavily on the Egyptian sources, it still brought together materials from sites in four modern countries. By necessity, any attempt to provide a holistic overview of fortlet duty will resemble a patchwork, stitching together different categories of evidence from different periods. Nevertheless, most of the datable sources employed here belong to the first or second centuries, and there is a homogeneity of subject matter from sites situated nearly 4,500km apart. In many ways, the soldiers’ reactions are exactly what might be expected. Upon learning that they would be deployed into a zone characterised by limited facilities and sporadic violent confrontations, those with contacts explored ways to ease their posting. Duty rosters and postal journals testify to the monotony of routine tasks and military bureaucracy, but these soldiers worked hard and played hard. Private enterprise and informal exchange softened the deficiencies in official supplies. Accounts of absenteeism and brawling are the exception rather than the rule, but

dubious financial schemes appear endemic. When these soldiers had served their time, they display a readiness to depart commensurate with an extended period in remote and often inhospitable areas. Perhaps the word that best sums up the subtext of the sources is ‘unpredictability’. Not just from a mobile, opportunistic enemy probably more often motivated by enrichment than a desire for conflict, but also from comrades, supplies, and even the calibre of their commander. But for many local communities, the *pax Romana* came in the form of these reluctant, flawed warriors who were despatched to outposts in the guise of peacekeepers.

PART 1

CONSOLIDATING CONQUEST

Although the scope of this book is limited to the first four centuries AD, it is well known that the use of towers alongside linear barriers to control movement has a long pedigree in the Classical world. Perhaps the most obvious expression of the technique can be found in the numerous examples of urban walls girding the city states that developed around the Mediterranean basin. The suitability of walls interspersed with manned installations to play a decisive role in aggressive actions was also appreciated. One celebrated example is the siege works erected by Caesar's soldiers to isolate the stronghold at Alesia, France, in 52 BC. According to Caesar, the Roman circumvallation extended for 17.5km, constituting an impressive engineering feat. In its developed form, there were two lines of fortification, featuring a battlemented rampart, a complex of ditches, various additional obstacles, and towers (*turres*) every 24m. The earliest version of the siege work reportedly incorporated twenty-three *castella*, a term that has been translated as variously 'redoubts' and 'forts' (*Gallie War* 7, 69–74). Employing the phrase *firmis praesidiis* or 'strong garrisons' to describe the soldiers manning them is redolent of the *praesidia* name applied to some later fortlets. Clearly the technique of interspersing towers with larger garrisons and walls to curtail unauthorised movement was fully appreciated by at least the mid first century BC.

This apparently longstanding familiarity with the use of small, dispersed garrisons to tighten military control is important to appreciating the key theme addressed in the following two chapters: the apparently rapid reoccurrence and proliferation of comparable systems – albeit stripped of artificial linear barriers – in the first century AD. Case studies will be drawn from the lower Rhine, the stretch of the Danube within Raetia, and Britain. The dates when these territories were first occupied span a considerable period. Caesar notes that the lower Rhine was described by one tribe as the limit of Roman sovereignty in 55 BC (*Gallie War* 4, 16), while a concerted attempt to conquer Britain was not launched until almost a century later in AD 43. Nevertheless, the earliest development of outpost systems in all three areas appears to have occurred around the middle of the first century AD. Towers were founded on the Rhine banks in the AD 40s, a cordon of fortlets was instituted along the Danube in Raetia in the late 30s or early 40s, and a pair of fortlets was established in south-west Britain in the 50s. This broad contemporaneity might be no more than an illusion conjured by gaps in the archaeological record, and

outposts were certainly used at earlier dates, such as the apparent network established in the Alentejo region of Portugal during the first century BC and the three Augustan towers beside the Walensee in Switzerland (Drack and Fellmann 1988, 320). A rapid proliferation of outposts in the mid first century AD would fit with a new focus on consolidating territorial gains. As the core technique had been understood since Caesar's day, this seems more likely to reflect a shift in imperial policy than an innovation in close-control methods.

A corollary of instigating an outpost screen is that the units garrisoned within fortresses and forts were further dispersed, eroding the army's ability to concentrate its strength rapidly in order to mount offensive operations. The use of troops in this way therefore implies a movement away from a force configured for active campaigning, to an army of occupation seeking to tighten control. It is entirely plausible that these outpost systems were initially conceived as temporary measures to boost security until such time as the military advance could continue. After all, the ancient historian Tacitus was bemoaning 'the time it is taking to conquer Germany' as late as the AD 90s (*Germania* 37). Even so, the modest tower and fortlet groups along the Rhine and Danube could be perceived as the first physical expression of the reality that there were limits to empire. It is certainly instructive to compare early outpost techniques along the Rhine and Danube with Britain. On the Continent, the smaller structure cordons are focused in a comparatively narrow band along the great rivers. In Britain, though, the most sophisticated systems grew up along the internal road network. If fortlet and tower use does provide a barometer for the local security situation, this amounts to the difference between disruption on the fringes of, and deep within, occupied territory. Chapters 2 and 3 explore the implications of the outpost systems that developed along the rivers, coastlines, and road network during the first and second centuries AD.

CHAPTER TWO

WATERWAYS

It is in the nature of great rivers that they simultaneously act as highways uniting communities and barriers dividing them. As the difference between these two states can amount to no more than the availability of rivercraft and knowledge to use them, for many decades it was the communications artery role that held sway in Roman frontier studies (see Wells 1972, 24; Maxfield 1987, 139; Whittaker 1994, 61). More recently, a series of sources both ancient and modern has been mustered to illustrate that a wide, deep watercourse, devoid of bridges and with any boats in the defender's hands, presents an appreciable obstacle to an attacking army (Rankov 2005). These sources range from Tacitus's evocation of the Roman Empire as 'fenced in by the ocean and rivers far remote' to an inscription erected at Tivoli, Lazio, in the AD 70s honouring Plautius Silvanus Aelianus's contribution to guarding the Danube (*Annals* 1, 9; *CIL* 14, 3608; Rankov 2005, 177). Equally, Hadrian's order to dismantle a permanent bridge spanning the Danube neatly illustrates that they created points of weakness (Cassius Dio *History of Rome* 68, 13, 5–6; Breeze 2015b, 17), especially as the various peoples living beyond the river do not seem to have mastered the art of manufacturing pontoons. In such circumstances 'fortifications can, and are designed to, change these linking highways into almost insuperable obstacles' (Rankov 2005, 178–179).

Judicious castrametation would be essential if a river was to retain any potency as a barrier when it froze, or drought diminished its flow. This

susceptibility to climatic factors emphasises that rivers present a dangerously capricious barrier (Rankov 2005, 178–179). Tacitus records that drought spurred Germanicus' advance across Germany in AD 15 because it 'had emptied the rivers, and gave him an uninterrupted advance' (*Annals* 1, 56). The weather could aid Rome's enemies too, and the Rhine freezing in the winter of AD 406 is often credited with enabling Alans, Suebi, and Vandals to pour across the river and devastate swathes of Gaul and Spain (Breeze 2011, 1). Of course, not all of Rome's enemies needed to cross in large numbers to create disruption. Under normal conditions it would be far easier for small raiding parties than for armies to procure boats and slip through any surveillance screen. Even then, the perpetrators faced the unpalatable choice of either splitting their force to protect the boats, or risking returning encumbered with spoils and finding their means of escape compromised (Rankov 2005, 179–181).

There is nothing paradoxical about Roman armies using watercourses as both highways and barriers. After all, travelling by boat was frequently faster than overland passage, while the dispersed deployment of soldiers needed to transform a river into a viable obstacle presumably generated an increase in river traffic commensurate with the establishment of new supply lines (Breeze 2015b, 17). Both the Rhine and Danube were patrolled by Roman fleets, and also plied by barges and freighters transporting official provisions or private merchandise. A comparable dual role can be asserted for coastlines. Two of the earliest and most innovatively designed fortlets in Britain occupied cliffs on Exmoor overlooking the Bristol Channel. This slither of open sea severs the south-west peninsula from southern Wales and served as a de-facto frontier zone for over two decades in the first century AD. It was also the maritime supply line to the legionary fortresses at Kingsholm and Usk (Evans et al. 2010, 98–102), which were instrumental to military ambitions in the region. Examining three case studies on the Rhine, Danube, and Exmoor coast introduces fortlet and tower use, while also illustrating the continuities and contrasts that underpinned garrisoning watercourses. As well as examining what these garrisons contributed, this chapter addresses wider issues raised by the evidence, including what the building stock reveals about the nature of everyday life, the strain that outposts placed on supply mechanisms, and local influence on fortlet design.

THE LOWER RHINE

On the conclusion of the German war Caesar thought it advisable for several reasons to cross the Rhine. His strongest motive was to make the Germans less inclined to come over into Gaul by giving them reason to be alarmed on their own account, and showing them that Roman armies could and would advance across the river.

(Caesar, *Gallic War* 4, 16)

The Rhine is one of Continental Europe's great rivers, flowing 1,232km from its headwaters in the Swiss Alps to its mouth in the Netherlands, where it debouches into the North Sea. Caesar's foray across the lower Rhine in 55 BC was ostensibly to chastise a recalcitrant tribe, but it dovetails with his British adventure later that year as an ostentatious action that was probably calibrated to capture the imagination of his audience in Rome. Both of these escapades were militarily inconclusive, at best, but the detailed coverage Caesar dedicates to how he crossed the Rhine presumably conveys a sense of the river's prestige among his readership. Despite the lower Rhine being brought under Roman control by Caesar, it does not seem to be until the second decade BC that units were permanently garrisoned on its bank. In 12 BC, Drusus repelled an attack from beyond the Rhine. He then crossed the river and advanced over 320km to the Elbe, before being fatally injured when he tumbled from his horse in 9 BC.

Drusus's spectacular territorial gains were followed up by the orderly process of establishing a Roman province. By AD 9 a town had been founded at Waldgirmes and everything appeared to be progressing smoothly until the governor of Germany, Quinctilius Varus, three legions, three *alae*, and six cohorts were ambushed and annihilated in the Teutoburg forest. In the aftermath of this disaster, the ageing Emperor Augustus lost his nerve and the Roman army retreated to the Rhine (Breeze 2011, 93). Despite claims that the lost land was successfully re-conquered by Germanicus, his recall in AD 16 saw the army brigaded along the river once more, with only a handful of advance forts retained beyond it (Maxfield 1987, 143–145). It is probable that military bases were first founded on the upper Rhine under Tiberius. This interest in a longer tract of the river seemingly anticipates a new approach in Germany. The balance between the Rhine serving as a springboard for advance and a line of demarcation was certainly shifting as the mid first century AD approached. In AD 35 the two legions garrisoned at Cologne were separated, an act that with hindsight can be seen as an early step towards dismantling a military apparatus configured for expansion eastwards. The remaining double legionary fortresses at Xanten and Mainz were not broken up until AD 69 and 89 respectively (Breeze 2011, 93–94), but by then the nature of Roman deployment along the Rhine had been transformed.

Until recently, the use of outposts along the lower Rhine could not be clearly dated to before the later first century AD. In 2002, the footprints of two superimposed timber towers were discovered on the Zandweg in Utrecht. The following year another tower was detected at De Balije and a possible third at Groot Zandveld (Graafstal 2007b, 192–193). The Zandweg tower was probably erected in the AD 40s (van der Kamp 2007, 172), while the De Balije tower and potential site at Groot Zandveld are also strong contenders for Claudian foundations (Graafstal 2007b, 192–193). These sites have revolutionised our

knowledge of early military surveillance along the river in the vicinity of Utrecht. That the Rhine was the principal focus of the tower garrisons is indicated by De Balije, where a replacement tower was erected several metres west of the original plot. This dislocation has been linked to the gradual movement of a meander, and a desire to keep the tower at the apex of the bend in order to maximise its line of sight along the channel. Rather than an exercise in creating a preclusive border, this arrangement is attributed to 'intensive monitoring of military transport corridors' and a desire to control river traffic (Graafstal 2007b, 193). There is no contradiction, though, in perceiving such riverside posts as part of a mechanism to control passage both along and across these watercourses.

The well-preserved vestiges of the Zandweg towers allow the development of this post to be reconstructed in some detail. The first tower was probably built of softwood, and sheathed within a wattle palisade and a ditch augmented with stakes. This aggregation of defences has been taken to imply that 'the aim of the tower was to be as resilient as possible' (van der Kamp 2007, 7). By the time the post was refurbished in the AD 50s, the ditch was silting up, possibly attesting to 'less importance being attached to the defensive character of the tower' (van der Kamp 2007, 7). Should such hints of growing confidence prove widespread, they would mark an important turning point in the assimilation of the region: a small contingent of troops was no longer judged a likely target, even if tackling cross-border incursions and the plundering of river traffic still required a military presence. A more comprehensive make-over at Zandweg followed in the early AD 60s, when the existing tower was demolished and replaced with a structure supported by massive oak posts. One of these provided a dendrochronological date revealing that it was felled in either late AD 61 or early 62 (van der Kamp 2007, 172). Presumably the more durable hardwood tower at Zandweg was intended to have a longer life than its softwood predecessor, but circumstances intervened. Combining the finds assemblage with the presence of burnt superstructure suggests that the post was destroyed by fire early in the Flavian period,

Finds from these towers include a ceramic slingshot and an iron arrowhead, indicating that soldiers on the upper level(s) of the tower were not just passive observers, but were able to engage anyone that strayed within range (see Hendriksen 2007, 130; van der Kamp 2007, 140). It would be wrong to dismiss slingshot as little better than throwing rocks, as experiments have demonstrated that cast-lead sling bullets boast a stopping power comparable to a .44 magnum revolver. Launched at a low trajectory by an accomplished slinger, such missiles have an accurate range of c. 120m, while lobbing the slingshot can send them c. 200m. Although the inferior ballistic properties of the ceramic slingshot bullets and smooth pebbles more typically found in fortlets and towers would diminish their performance, such missiles could still inflict

grievous injury or death. As well as felling human targets, slingshot would also have been suitable for hunting (Reid 2016, 26; J.H. Reid pers. comm.).

The loss of the Zandweg tower has been tentatively linked to insurrection during the Batavian revolt (van der Kamp 2007, 173). This regional convulsion commenced in AD 69, which history remembers as the ‘Year of the Four Emperors’, a name that succinctly summaries the chaotic but concentrated bout of civil war that followed Nero’s suicide in AD 68. One of the contenders for the purple, Vitellius, was governor of Lower Germany and denuded the Rhine army of soldiers in order to field a force capable of establishing his imperial credentials. The Batavi, whose homeland lay near the mouth of the river, seized the opportunity presented by a weakened occupation force and rebelled under the leadership of Julius Civilis. Following Vitellius’s defeat in the second battle of Cremona, enthusiasm for the revolt spread and ultimately Civilis was able to command a confederation comprising Gauls, Germans, and even some of the Rhine legions. The treachery of Roman citizens was castigated by Tacitus as ‘a deed of shame quite without parallel’ (*Histories* 4, 57). Although the civil war ended in December AD 69, with the execution of Vitellius and the acclamation of Vespasian as emperor, it was not until AD 70 that the Batavian revolt was suppressed. Rome’s response was spearheaded by the legate Petillius Cerialis, whose handling of the affair displayed a knack for being in the wrong bed at critical moments. The shortcomings of the Rhine fleet are also eye-opening, with one naval engagement ending almost before it began after the opposing vessels passed each other without stopping (Tacitus *Histories* 5, 23). Despite such moments of farce, Cerialis inflicted a succession of defeats on the rebels, forcing Civilis to negotiate (Elton 1996, 44–46).

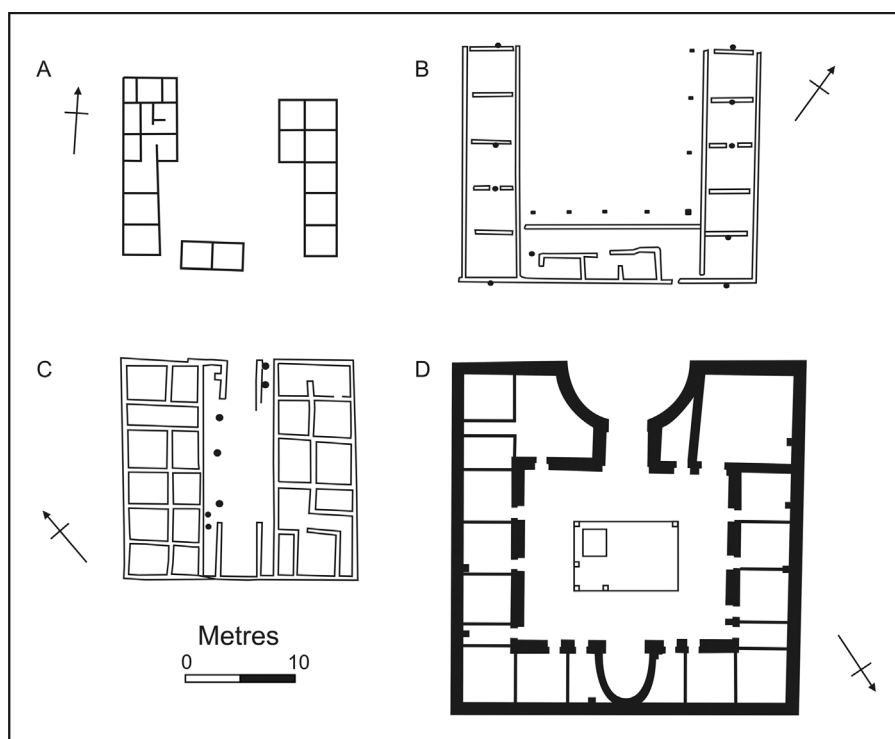
Restoring order in the aftermath of the revolt has been tentatively advanced as the explanation for a tower and fortlet at Marktveld, 600m from the auxiliary fort at Valkenburg. An AD 70 date would also fit with a comment by Tacitus, that ‘owing to a drought unusual in these latitudes, the Rhine was scarcely navigable. . . . Moreover, outposts were stationed along the whole bank to prevent the Germans from fording the river’ (Tacitus *Histories* 4, 26). As the modest garrisons manning these would have been powerless to prevent substantial incursions, Tacitus is presumably alluding to smaller groups capitalising on the breakdown in authority to engage in larceny. Attributing the Marktveld outposts to this period is justified on the shaky grounds that the fortlet was erected over the charred vestiges of granaries, which *may* have been incinerated during the troubles (Hallewas and van Dierendonck 1993, 24, 37). Despite the appeal of connecting the outposts with a known historical event, the true reason for their presence is probably provided by a concentration of storage and harbour facilities at Marktveld (Hallewas and van Dierendonck 1993, 15–16). This suggests that the area acted as a transshipment point on the military supply network for the lower Rhine, which provides ample

justification for establishing outposts. Indeed, using them to secure this facility illustrates two of the core characteristics that seemingly underpin outpost use: they safeguard official assets or interests, and there was a sound local reason for their presence.

Constructing Communities

The Marktveld fortlet offers an early example of an ingenious internal building type that became popular in Continental Europe, but has yet to be conclusively identified in Britain. In its developed form, the structure was horseshoe shaped and comprised two wings, probably providing primarily barrack accommodation. These were linked by a shorter suite or single room that was axially aligned on the fortlet entrance (Fig. 8). At Marktveld, however, the length of the three ranges is near-identical, creating an internal yard out of all proportion to the gate width. The excavators argued that the central range was a secondary addition (Hallewas and van Dierendonck 1993, 21–23), although numerous elements of the design point to a single, cohesive structure (Symonds 2008, 164). The central range is more elaborately partitioned than the adjoining wings, with one room facing the fortlet entrance. This arrangement, coupled with the enduring prominence of a central focus in later iterations of the building type, fits with a suggestion that in the Eastern Desert *praesidia* such rooms were shrines (Reddé 2006, 248–251). If so, the conflation of axially aligned sacred space and barrack accommodation could be viewed as a miniaturised fusion of elements from the *principia* and barracks flanking the *via praetoria* in a typical fort. Indeed, the ample dimensions of the internal yard within the Marktveld fortlet suggests that this acted as the equivalent to a *principia* forecourt, creating a space where the garrison could assemble for martial, disciplinary, or religious purposes. One implication of this interpretation of the design is that a shrine was frequently present in fortlets. If the detachment was issued with a *signum* (see p. 10), then it would need to be housed sufficiently reverentially (P. Bidwell pers. comm.), but the presence of dedicated cult space within a fortlet could also be useful for strengthening unit cohesion.

As usual, scratching the veneer of superficially uniform Roman military practice reveals rich regional diversity. It remains disputed whether Roman provincial armies observed a universal religious calendar, but it is implied by the third-century *feriale Duranum*, from Dura Europos, Syria. This document is believed to derive from the records of the *Cohors XX Palmyrenorum*. The surviving text catalogues the dates when observances should be made, and the appropriate sacrifice. Deities specific to either the locality or the auxiliary unit are conspicuously absent, suggesting that the calendar is a generic document widely circulated among military units (Goldsworthy 2003, 108). A bare-bones approach of prescribing only dates and offerings left plenty of scope for



8 The internal buildings at Martinhoe date to the AD 50s and provide a possible prototype for the developed U-shaped building plan (A). A complete U-shaped building with an unusually spacious yard was erected in Marktveld, which has been dated by association with the road to the AD 70s (B). A narrower version was provided in the second-century fortlet at Degerfeld (C), while the basic design is arguably detectable in the supposedly mid-third-century installation at 'in der Harlach' (D).

After: Fox and Ravenhill 1966; Hallewas and van Dierendonck 1993; Jorns and Meier-Arendt 1967; Ramstetter 2015b

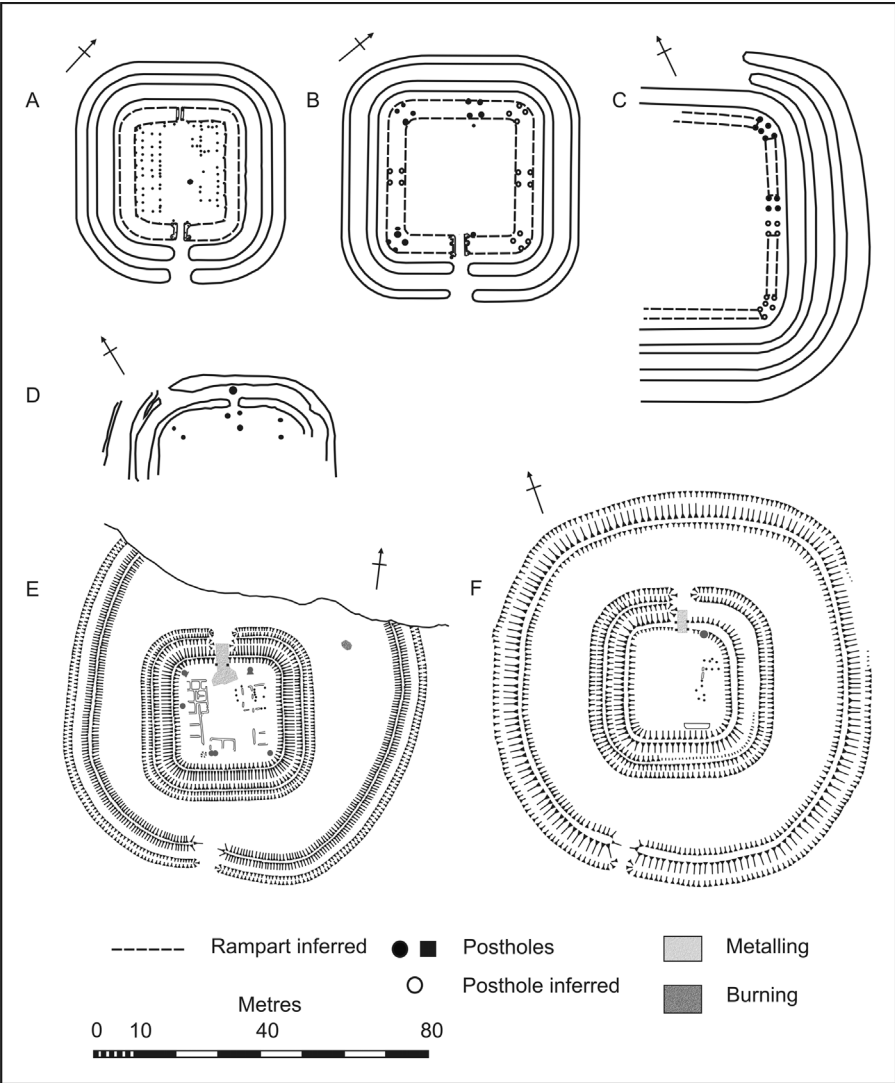
local liturgical colour, while ensuring that these festivals were undertaken at the same time and for the same purpose across the Empire (Haynes 2013, 204; 211). The sense of community such shared devotions fostered would have been a powerful tool for asserting the common bond between soldiers from different units rubbing shoulders in a fortlet. Whether ordinary soldiers were more swayed by the spirit of the rituals or the conviviality associated with them is an open question, although possible displays of personal devotion have been identified (Haynes 2013, 213–218). The proven presence of shrines in some fortlets, including Iovis, Egypt, and Tisavar, Libya, (Mackensen 2010; Reddé 2015), and the presence of altars nearby others, including numerous milecastles on Hadrian's Wall (Breeze 2002a, 60–61), is consistent with the corporate identity forged by these rituals being judged important. At such times the *curatores* would presumably serve as the sacrificants for, as well as the commanders of, their modest communities.

THE RAETIAN DANUBE

Rather than exploring the development of outpost networks along the entirety of the Danube's 2,860km course, from the Black Forest Mountains to the Black Sea, this section will focus on the stretch within Raetia (Fig. 10). This province encompassed vast tracts of mountains, plains, and forest, while its northern border was initially demarcated by the Danube Channel (Czysz et al. 1995, 78–79). At its most northerly point, the river lies c. 160km from the Bavarian Alps, and the intervening territory is known as the Voralpenland, a region that is believed to have been significantly depopulated in the decades prior to the Roman annexation (Sommer 2015a, 15). The Voralpenland first attracted Roman military attention in the aftermath of the seizure of the Alpine passes by Drusus and Tiberius in 15 BC (Maxfield 1987, 142), but overrunning it did not command comparable attention from the ancient authors to Caesar's exploits in northern Gaul. Consequently, reconstructing the pace of military occupation and establishment of civic structures is dependent on chronological information gleaned from finds assemblages.

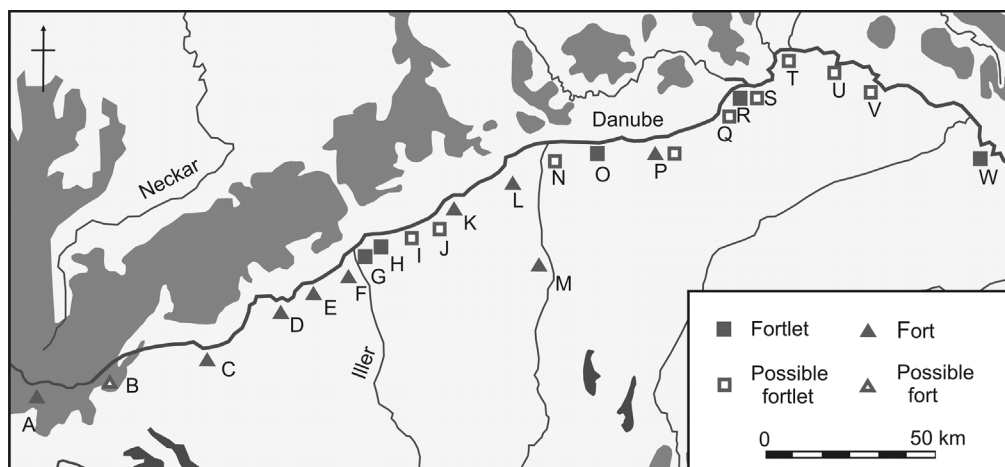
The genesis of a coherent line of control along the Raetian Danube is believed to lie in the late Tiberian or Caligulan period, with the number of riverbank installations multiplying under Claudius during the AD 40s (Sommer 2015a, 16–17). This programme culminated with a sequence of forts along the Upper Danube stretching from Hüfingen, in what would become Germania Superior, to Oberstimm, in Raetia. The earliest links in the Raetian fortlet chain were probably installed approximately contemporaneously with the first Danube forts (Mackensen 1987, 77). Five fortlets have been proven by excavation (Fig. 9), and a further eight or more are suspected on the strength of isolated finds assemblages or aerial photographs. Unlike the forts, this sequence did not terminate at Oberstimm (Czysz et al. 1995, 75–78). Instead it continued to the east, allowing the AD 40s control system to be split into two sectors. While the western stretch of the Raetian Danube was lined by forts and fortlets between Nersingen and Oberstimm, to the east only fortlets are known to have been present (Fig. 10).

This apparent absence of Claudian-era forts along the eastern sector left fortlet garrisons securing 180km of the provincial border (Schönberger 1969, 154). Among the reasons advanced to explain this is the seemingly low local population levels both north and south of the Danube in this region (Czysz et al. 1995, 78). While the size and attitude of these populations must have exerted considerable influence on outpost use, an additional possibility is suggested by the termination of the fort cordon at Oberstimm. This broadly coincides with the eastern extent of the territory north of the Danube that was annexed by the Roman army in the Trajanic period. Further east, beyond the possible fortlet site and later fort at Eining, the Danube remained the northern



9 The Danube and Exmoor fortlets: (A) Nersingen, (B) Burlafingen, (C) Weltenburg Am Galget, (D) Haardorf-Mühlberg, (E) Martinhoe, (F) Old Burrow.
After Mackensen 1987; Rind 1995–1996; Bender et al. 1999; Fox and Ravenhill 1966; Riley and Wilson-North 2001

border of Raetia. It is conceivable that there are two superimposed systems here, one intended to control the river, the other incorporating forts, which provide the baseline for a long-delayed offensive to the north (Symonds 2008, 176). One explanation for such a delay would be the major diversion of manpower and resources to undertake the Claudian invasion of Britain (Schönberger 1969, 154). If the Danube does display partially superimposed screening and offensive systems, there would inevitably be some overlap between them, not least because they presumably drew on the same pool of



10 The military installations on the Upper Danube. In the Claudian period, the known or suspected military posts along this stretch of river are: (A) Hüfingen, (B) Tuttlingen, (C) Mengen-Ennetach, (D) Emerkingen, (E) Rißtissen, (F) Unterkirchberg, (G) Burlafingen, (H) Nersingen, (I) Günzburg, (J) Bürgle bei Gundremmingen, (K) Aislingen, (L) Burghöfe, (M) Augsburg, (N) Oberpeiching, (O) Neuberg a. d. Donau, (P) Oberstimm, (Q) Eining, (R) Weltenburg Am Galget, (S) Weltenburg Frauenberg, (T) Regensburg-Kumpfmühl, (U) Pfatter-Gmund, (V) Straubing, (W) Haardorf-Mühlberg.
After: Czysz et al. 1995

manpower. At the very least, the absence of forts east of Oberstimm emphasises that such installations were not essential components of day-to-day Claudian border control (Symonds forthcoming a).

It was the discovery of Nersingen fortlet in the 1980s that provided a catalyst for investigation of this outpost chain (Fig. 9). The installation had an internal area of c. 560m² and occupied a natural terrace 2.1km north of the South Danube Roman road, a Roman highway running to the rear of the river (Fig. 11). Today, the Danube flows 1.5km north of Nersingen, and although its course in the AD 40s is uncertain (Sommer 2009, 104), there must be a good reason why the fortlet lay so far from the road. Mackensen proposed that Nersingen oversaw a river crossing on an established prehistoric track, and envisioned the soldiers acting as customs officials (Mackensen et al. 1983, 93–96; Mackensen 1987, 131). Such a role is frequently asserted for border fortlets, despite an absence of direct evidence to support it. One reason why it was envisioned at Nersingen is that the garrison was estimated to be only thirteen to nineteen strong, rendering it too small to make a meaningful contribution to local security (Mackensen 1987, 40–41). Nevertheless, this size was calculated on the assumption that only one internal building was a barrack. As a pair would be usual for a fortlet of this size, it is probable that the estimated number of soldiers can be at least doubled (see Dobson 1989, 362; Symonds forthcoming a). Such numbers would be equal to fulfilling a range of tasks, rather than just levying customs duty.



11 Danube fortlet locations: (A) view west from the low-lying site of Burlafingen, (B) Nersingen, founded on a slight terrace, (C) Neuberg a. d. Donau occupied the far end of this natural outcrop, (D) the Danube, looking west, as it flows north of the fortlet at Am Galget.

The design of the neighbouring fortlet at Burlafingen certainly indicates a keen interest in exerting control. Around a quarter of the fortlet internal area of c. 783m² has been scoured away, which, coupled with the Roman road lying 4km distant, indicates that Burlafingen was built directly on the Danube bank (Mackensen and Marx 1984, 94; Fig. 11). This position presumably explains the astonishing number of towers set along the rampart (Fig. 9). Such features are typically only found – or more accurately assumed – over gateways in British and German fortlets. Given the scarcity of corner and interval towers, Mackensen's description of examples set only 16m apart as 'awkwardly arranged' is something of an understatement (Mackensen 1987, 127). A link between garrison composition and the presence of these towers is supported by the recovery of an arrowhead and river pebbles well-suited to serve as sling stones (Mackensen 1987, 113). Burlafingen was not solely manned by missile troops, however, as a horse harness fitting implies a mounted capability. A helmet recovered from nearby river gravels with a graffito naming LEG XVI punched into its neck guard (Mackensen 1987, 121) could suggest a legionary presence. The end result is a garrison that may have comprised legionaries and auxiliaries, and included infantry, cavalry, and missile troops, marrying an impressive breadth of martial skills. Although the presence of legionaries deviates from the Egyptian evidence, there are hints that they were

more closely involved in some capacity with fortlets in the north-west provinces. Perhaps a legionary soldier was present in the capacity of *curator*.

Although European fortlets were rarely equipped with corner or interval towers, they most frequently occur in installations associated with river channels. This suggests that the reliance of terrestrial forces on missile troops to exert any control over passage along watercourses was fully appreciated (Symonds 2007, 46). The positions of the Danube fortlets at Neuburg a. d. Donau on a natural ledge dominating the channel and Weltenburg Am Galget directly west of the entrance to a gorge support an interest in controlling the river (Fig. 9; Fig. 11). An additional role for some installations is implied by the location of the fortlet at Haardorf-Mühlberg and the possible fortlet at Straubing on modest elevations overlooking probable moorings. This could indicate the presence of a naval component (Bender et al. 1999, 152), but as these fortlets seem to predate the earliest metalled road in the vicinity it would also aid supply, and create a series of secure moorings for official vessels plying the more remote reaches of the Danube. Despite this apparent attention to logistics, there are reasons to doubt that the supply system serving these fortlets was wholly reliable.

Self-Sufficiency

All three cases studies presented in this chapter furnish examples of local foodstuffs being exploited by outpost garrisons. The finest, though, is the faunal assemblage from Haardorf-Mühlberg fortlet, which lay over 100km from the nearest known fort in Raetia and seemingly illustrates the logistical challenges thrown up by establishing isolated posts (Peters and Pöllath 1999, 162; Symonds forthcoming a). Of the identifiable bones from the site, 40% belonged to wild animals, but as not all of the domesticates were slaughtered for food, this equated to about 55% of the garrison's meat intake. There was a particular appetite for red deer, which comprised 23.4% of the assemblage and was presumably hunted nearby. Beavers, fish, and molluscs were consumed too. Although game was also on the menu in the Danube forts to the west, the only fort where exploitation of it was comparable to Haardorf-Mühlberg is Oberstimm (Peters and Pöllath 1999, 161–162).

Shortages of essential commodities are also documented in the Egyptian *ostraca*. Urgent requests for water and fodder (M689; M147; see p. 18) are particularly eye catching given that the Eastern Desert *praesidia* were situated along a major highway, which should have eased their provisioning. The inference that supply systems were fallible in less isolated contexts is supported by the wide variety of foodstuffs recovered from the Utrecht tower at Zandweg. Although the detachments serving in this tower were probably issued with rations, including the pre-butchered hind legs of animals raised

for slaughter, they also enthusiastically exploited wild produce available in the vicinity of the tower (van der Kamp 2007, 8). The garrisons presumably counted competent fishermen among their number, as seven species of freshwater fish were consumed at the site, a catch that may indicate no more than soldiers seeking some respite from military rations. The presence of freshwater mussels among the food waste, though, hints that some foraging was motivated by a desire to supplement meagre provisions. Freshwater mussels are considered distasteful to the modern palate and it has been tentatively proposed that their consumption at Zandweg is linked to episodes of food shortages (van der Kamp 2007, 8). These signs that the garrisons contained soldiers who were skilled foragers may be linked to *auxilia* members being overwhelmingly recruited from the less urbanised provinces of the Empire. This was due in part to a conviction that urban living bred indolence (Haynes 2013, 154), but individuals that had mastered the arts of living off the land during their formative years would clearly be an asset. Such skills would have helped insulate remote – and not so remote – detachments from the vagaries of official supply.

Despite the aptitude of the Haardorf-Mühlberg garrison for exploiting wild produce, they were not left dependent on it. Domesticates also appeared on the menu, with pigs (30%) and cattle (18.4%) being most common (Peters and Pöllath 1999, 159). A penchant for pork is a feature of the upper Danube garrisons (Goldsworthy 2003, 98), although whether the pigs were supplied via official channels or reared at the fortlet, or both, is unclear. Pigs certainly appear to have been bred at outposts in the Egyptian Eastern Desert by both soldiers and civilians as part of the informal economy. Horse bones were also present in small quantities at Haardorf-Mühlberg (in total 3.4%, or equivalent to less than ten individuals), but did not display butchery marks, suggesting that they were not exploited as a foodstuff. This reinforces the notion that fortlet garrisons routinely included cavalry, while the presence of foals could indicate that animal husbandry was among the tasks incumbent on the soldiers (Peters and Pöllath 1999, 159, 162). Dog bones (0.1%) recall a reference in an Egyptian *ostrakon* to ‘...the dogs of the *praesidium*...’, and Bülow-Jacobsen’s incisive prediction that this would trigger debate about fortlet guard dogs (*O.Did.* 431; Bülow-Jacobsen 2012, 368). This evidence for horse and pig breeding at some sites, as well as slight evidence for the presence of dogs, invites us to imagine not only soldiers from different units living side by side in the outposts, but also members of different species. How common the presence of multiple living animal species was remains unclear, but at least some fortlets must have resembled something of a menagerie.

The red deer that were so eagerly devoured at Haardorf-Mühlberg were not only good to fill soldiers’ bellies. Antlers were coveted raw materials, and all of the fragments recovered from the fortlet display evidence of being worked.

Naturally shed antlers were also sought out, indicating that this industry went beyond a happenstance recycling of food waste (Peters and Pöllath 1999, 164). Bone and antler implements were also manufactured by the garrison of Neu-berg a. d. Donau fortlet, while evidence for metal smelting and textile production at Haardorf-Mühlberg emphasises that self-reliance could extend well beyond food procurement (Czysz et al. 1995, 488; Bender et al. 1999, 153; Symonds forthcoming a). The value of cultivating such skills on site is ably demonstrated by another Egyptian *ostrakon*, sent by the *curator* of Krokodilo fortlet to the Prefect of the Desert on 22 January AD 109, requesting the urgent repair of a broken component from the garrison mill:

...the *acisculus* of the mill is broken – the iron part – and there is nothing we can do ... in the fortlet. I've dispatched Krinolaos, cavalryman of the *turma* of Satrius, with the iron part in order for it to be repaired. That is why we ask you, Lord, to return it at once. Indeed, we do not have the means to live if the mill is not restored.

(O.Krok. 14)

The considerable distance between Haardorf-Mühlberg and the more extensive repair facilities available in a fort would have increased the lag time between a fault occurring and it being remedied, unless the garrison was competent to resolve the problem themselves. Iron slag is not commonly reported from fortlets, but its presence at Haardorf-Mühlberg does suggest a level of self-sufficiency commensurate with the installation's isolation. Given the limited facilities available within fortlets, there would be an obvious advantage to cultivating as wide a breadth of skills among the garrison as possible, and it is suggestive that hunters and smiths were particularly prized as *auxilia* recruits (Haynes 2013, 100). Another region that probably taxed the logistical ingenuity of the Roman army can be found on the Exmoor coast in Britain.

THE EXMOOR COAST

Roman forces first campaigned in Britain in 55 and 54 BC, when Caesar led two expeditions across the Channel, but it was only following Claudius's invasion in AD 43 that a concerted attempt was made to occupy the island. It was probably the newly acclaimed emperor's need to legitimise his leadership – rather than the pretext of a request for support from allied British kings – that sealed Britain's fate. The Claudian invasion force comprised four legions: the *IX Hispana* from Pannonia and the *II Augusta*, *XIV Gemina*, and *XX Valeria* from the Rhine, alongside a presumably roughly equal number of *auxilia*. Following a successful landing, the initial advance was rapid and Claudius and his elephants were on hand to witness the subjugation of Colchester in the late

summer of AD 43. By AD 51 Claudius's triumphal arch in Rome could proclaim the surrender of eleven British kings, but despite this auspicious start the pace of advance was already slowing.

Although occupying the south-west peninsula of Britain appears to have progressed smoothly, it was a different story across the Bristol Channel in southern Wales. The former region is believed to have been the territory of the Dumnonii, a group that has traditionally been viewed as sympathetic to Rome, possibly even 'allied' (Fox 1967, 15, 20). More recently the Dumnonii's retention of traditional social and economic structures has been perceived as a calculated snub to Mediterranean lifestyles, while the military infrastructure in the south-west has proven to be more extensive than once assumed (Griffith 1997, 366; Cunliffe 2001, 412). Nevertheless, army units only appear to have occupied the region in force for twenty years, from c. AD 55 to 75, and a growing appreciation of the importance of mineral extraction provides a possible alternative explanation for the army's interest in Dumnonian territory (Griffith 1997, 365). On the other side of the Bristol Channel the Roman army became embroiled in a campaign against the Silures in southern Wales, which was characterised by fierce but intermittent combat. Roman efforts were hamstrung by a litany of misfortunes, including the expiration in office of the governors Ostorius Scapula and Quintus Veranius, the succession of Nero,



12 The approximate views north, east, south, and west from Martinhoe at ground level. The fortlet garrison enjoyed excellent views to the north and east, but more restricted ones to the south and west.

and the Boudican revolt (Burnham and Davies 2010, 37–38). This confluence of calamities resulted in the conquest of southern Wales dragging on from AD 49 to 73/74, with the stalemate turning the coastline of north Devon and Somerset into a *de facto* border zone for a quarter of a century.

It was against this backdrop that two fortlets were established on the Exmoor coast at Old Burrow and Martinhoe (Symonds forthcoming b). Both outposts crown high cliffs that provide outstanding views across the Bristol Channel to Silurian territory (see Fig. 14 in Chapter 3; Fig. 12; Fig. 13). The fortlets boast distinctive defences that comprise a pair of roughly concentric ramparts, with the inner enclosure forming the fortlet proper (Fig. 9). Currently only six examples of this remarkable fortlet variant are known, and all but one occur within the bounds of modern Devon. The sole outlier lies at Cemlyn, Anglesey (Chapman 2016, 289), and just like the Exmoor installations it dominates remote landing grounds. No formal metalled road is known to have traversed the Exmoor coastline, although a track of some sort must surely have existed. The nearest candidate for a Roman fort lies 30km distant, over difficult terrain, (Riley and Wilson-North 2001, 77), leaving the fortlets conspicuously remote from effective reinforcement. It is probable that at least some provisions were shipped in via the Bristol Channel, an arrangement facilitated by the installations lying adjacent to landing grounds (Fox and Ravenhill 1966, 22–23). Just like the Rhine and Danube garrisons, the soldiers manning the Exmoor fortlets supplemented their diet



13 Martinhoe occupied a clifftop plot overlooking the Bristol Channel, and directly adjacent to the landing ground at Heddon's Mouth (far left).

with local produce, including hazelnuts and shellfish. Sadly the acidic moorland soils have dissolved any faunal residues, denying us the opportunity to see whether the garrison hunted the renowned Exmoor red deer herds, however likely that may seem.

Two of the excavators' conclusions about the Exmoor fortlets have cast a long shadow over perceptions of their purpose. A patch of burning within the outer enclosure at Martinhoe was interpreted as a beacon stance used to transmit information about sightings of Silurian ships to naval patrols in the Bristol Channel. As a consequence, the fortlets are widely viewed as surveillance and signalling assets. The excavators also inferred that the two installations were not contemporary (Fox and Ravenhill 1966, 24–25), primarily on the strength of apparent differences in the internal building stock. It seems likely, though, that this is an illusion created by clearer traces of barrack

Box 3: Martinhoe

Martinhoe has an internal area of c. 540m² and is one of the finest examples of a small, freestanding fortlet. It contains two ranges of barrack accommodation, flanking an internal yard (Fig. 8; Fig. 9). At the far end of the yard, opposite the gateway, lay a freestanding structure comprising a pair of rooms interpreted as a possible armoury and quartermaster's store. The commander may have occupied a three-room suite at the northern end of the western barrack block, placing him adjacent to the gateway (Fox and Ravenhill 1966, 18–20). Such a location was assigned to the *curator* in an Egyptian duty roster (the 'coxa' dossier: Cuvigny 2006b, 308), where he was responsible for maintaining the garrison's daybook and keeping an eye on comings and goings.

Of the internal buildings, the putative storeroom and armoury is particularly interesting. The foundation trenches for this suite were unusually deep, while the premium placed on setting it opposite the entrance created an asymmetrical internal layout after the gateway was – presumably inadvertently – offset to the west. This reduced the space available for the western barrack block, forcing it into an 'awkward' plot (Fox and Ravenhill 1966, 18–19). The special treatment afforded to the two-room suite suggests that it was a shrine (Symonds forthcoming a), a conclusion reinforced by the implied building order. The rampart and gateway must have been constructed first, while the two-room suite presumably came next, before its impact on the western barrack block was appreciated. A similar priority is apparent in the mid-Antonine fort at South Shields, Tyne and Wear, where the *aedes* was one of the first internal structures to be built (Bidwell 2007, 72).

A pit adjacent to the two-room suite in Martinhoe probably catered to a more profane ritual, as its size and setting is comparable to a latrine in the fortlet at Barburgh Mill (see Breeze 1974, 139). Such a provision is surprisingly rare in excavated fortlets, raising the question of whether some garrisons simply relieved themselves in the outer ditches, or latrines are passing unnoticed.

blocks surviving in Martinhoe than Old Burrow. In both cases the finds assemblages from the fortlets date to c. AD 55–75, and a compelling case can be made for them being conceived to act in unison (Todd 1987, 200; Symonds forthcoming b). Their setting indicates that coastal control is a more likely motive than signalling. Indeed, as the burning detected at Martinhoe is undated and the full modern name of the site is Martinhoe Beacon, this residue may well derive from the more recent past. What is certain is that combining the views along the Exmoor coastline from the two fortlets allows them to monitor the approaches to all but one of the viable maritime entry points within the modern national park. Controlling landing grounds where raiders could otherwise access the interior unobserved is explicable as an early attempt to tackle the ‘clandestine crossings of bandits’ recorded on the AD 185 inscription series from Intercisa (*CIL* 3, 297–303).

Protection or Defence?

A repeated theme in the discussion of fortlet garrisons has been indications that cavalry were present, ranging from the discovery of harness fittings and bones to detailed accounts of their use in the Egyptian *ostraca*. No such direct evidence for horses is forthcoming from the Exmoor fortlets, but the two installations are not intervisible and the easiest way for them to exchange detailed information quickly would be via relay riders. If horses and other working animals were present, it is possible that a desire to corral them safely influenced the design of the fortlets. The distinctive outworks would be far better suited to such a role than acting as beacon emplacements (Symonds 2007, 42; Salvatore 2011, 121–122). Intriguingly, the south-west peninsula is also home to a concentration of Iron Age settlements that were described as ‘concentric’ because they comprise two or more compounds arranged loosely around the same centre (Fox 1958, 35–37). It is broadly accepted that the design of these settlements was influenced by a desire to protect livestock from rustlers and wolves (Fox 1953, 18), raising the prospect that the unusual design of the fortlets resulted from the Roman army co-opting a promising element of the local vernacular architecture (Symonds forthcoming b).

If a local settlement design intended to protect livestock was assimilated by the army, its implementation does not seem to have been accompanied by a robust assessment of the defensive implications. Because the two sets of defences do not intersect, any soldiers manning the outer rampart would be cut off if it was breached. Even worse, capturing the outer rampart would provide the attackers with a ready-made siege work, which isolated the defenders in the inner enclosure. That direct assaults on fortlets could occur is highlighted by an eyewitness account of just such an attack in Egypt:

I bring to your attention the fact that on the 17th of this same month of Phamenoth, 60 barbarians attacked the Patkoua *praesidium*. I fought with the comrades that I had with me from the tenth hour until the second hour of the night, and they besieged the fortlet until dawn. That day Hermogenes, infantryman of the century of Serenus, was killed, and a woman and two children were kidnapped, a(nother) child was killed. At the dawn of the 18th . . . we fought and Damanais, rider of the century of Victor (yours) [was killed?], Valerius Firm[. . .] was hit and his horse. . .
(*O.Krok.* 87)

The failure to remedy the critical weakness created by the outwork suggests that the Exmoor fortlets were never subject to such an assault. Tellingly, perhaps, the defences of almost all later fortlets equipped with outworks in Britain do intersect, suggesting that ultimately the flaws of the concentric design became apparent. This development could be construed as an acknowledgement that not all local groups were as forgiving of defensive weaknesses as the Dumnonii.

CONTROLLING WATERCOURSES IN THE FIRST AND SECOND CENTURIES

All of the installation groups assessed here emerged during a period of retrenchment. Along the Rhine, the appearance of outposts marks a logical conclusion to a gradually evolving security situation, which saw an army configured for advance repeatedly return to the riverbank. Over time the use of a greater length of the Rhine, coupled with the breaking up of multiple legion strike forces, signals a switch from a baseline for further expansion to an artificially strengthened line of demarcation. The situation along the Danube was rather different. There, the chain of forts along a discrete stretch of the river channel could indicate a desire to annex the territory to the north. If so, it would be approximately sixty years before the planned advance was executed. In the interim, a cordon of fortlets was employed to tighten control of passage along and across the river. Fortlets were also founded on the Exmoor coast in the aftermath of an advance into new territory. Once again, the fortlets appear to have been judged suitable to secure a remote stretch of border, while the larger military installations were concentrated in the region where the advance into southern Wales would occur. This time, it would be twenty-five years before the land to the north of the Exmoor fortlets was secured. In all three cases, the provincial armies correctly divined that immediate aggressive expansion was unlikely and took steps to tighten control of the territory they held.

Unusually intricate defences are a feature of these fortlet groups. As the 'concentric' inner and outer ramparts found predominantly in south-west England occur in coastal contexts, along roads, and as satellites covering the

overland approaches to a legionary fortress, it is clear that this variant was not a response to the pressures of controlling a watercourse. Indeed, it is certain that the Exmoor fortlets were not designed to allow missile troops to obstruct passage along the Bristol Channel, as it is far too wide. The same cannot be said of most Raetian Danube fortlets, and indeed some of their counterparts on the Lower Rhine, which invert the standard pattern in north-west Europe by making fortlets without corner or interval towers rarer than those with them.¹ This feature – combined with the probable presence of missile troops at Burlafingen – indicates a desire to contest passage along as well as across the river. The Rhine is the only place where freestanding towers have also been identified, although these are far harder to detect than fortlets and may well await discovery elsewhere. Both the position of the towers and the projectiles found at Zandweg suggest that these, too, sought to control passage along and across the river. While the Raetian Danube certainly formed the backbone of a fortlet cordon, whether comparable chains occurred along the Rhine and Bristol Channel coast is unclear. Although the Exmoor fortlets could form components of a wider cordon, they are entirely explicable as a response to remote landing grounds well suited to covert access along that particular stretch of coast (Symonds forthcoming b).

The advanced position of some fortlets seems to have strained supply chains, while even the less remote Zandweg tower may have experienced fluctuations in provisioning. Cultivating self-sufficiency would create more resilient garrisons, and the hunting, smelting, textile manufacturing, and antler industries pursued at Haardorf-Mühlberg testify to what could be achieved. The presence of shrines within at least some of these fortlets would also permit self-reliance in terms of cult practice, a provision that should help cement the common bond between the soldiers manning them. None of the outposts considered here show any signs of wishing to conceal the presence of military garrisons and surprise those attempting incursions; on the contrary, they were made as visible as possible. The cliff-tops occupied by the Exmoor outposts, the towers crowding Burlafingen's rampart, and the Utrecht tower chain would all create visual deterrents. Consensus regarding garrison size remains elusive, but the numbers manning the fortlets were clearly modest, while there may well have been no more than six soldiers in the freestanding towers. While the former ought to be capable of neutralising groups such as raiders, pirates, bandits, and practitioners of guerrilla warfare, the latter would only be able to ward off the lowest intensity threats. On this basis, outposts set along watercourses seem best calibrated to curtail the activities of raiders and pirates.

¹ Although the Marktveld fortlet is not equipped with corner towers, two later stone fortlets erected on the Rhine banks at Wethausen and Reckberg do have them (Bechert 1989, 197–199; Symonds 2008, 193–196).

CHAPTER THREE

HIGHWAYS

Engineered all-weather roads have become something of a conceptual shorthand for Rome's military and economic prowess. By connecting distant centres, cutting communication times, and opening up previously remote country, these thoroughfares bound the Empire together and facilitated the rapid transmission of the men, materiel, and information on which it depended. Any notions of isolated Iron Age communities being united by Roman engineering are, however, imbued with historical romanticism. There is ample evidence that the Iron Age peoples of north-west Europe were perfectly capable of creating their own routeways (Bishop 2014, 3). We have already seen that the site of one fortlet, Nersingen, may have been dictated by a pre-existing thoroughfare, while in Britain, cattle reared in the Scottish Highlands could be conveyed to Salisbury Plain, Wiltshire, as early as the Neolithic period (Parker Pearson 2015, 88). The known examples of early routes, coupled with the sustained diffusion of prehistoric technology and artefacts, suggest that the benefits of established thoroughfares were appreciated long before the Roman conquest. Many early routeways in north-west Europe would have been vulnerable to seasonal weather fluctuations. Anyone who has sought out some of the more remote Roman remains in Britain and Germany today will know how slow the going can be over boggy or just uneven ground devoid of a maintained hard surface.

The Roman contribution was to initiate a network that could – by and large – tolerate traffic all year round. Inevitably, improved connectivity came

at a cost, as the presence of a thoroughfare created new opportunities for illicit activity. If traffic increased following the advent of Roman control, so too did the potential rewards for bandits and brigands. Exactly how quickly these metalled roads followed in the wake of the Roman army remains an open question. As late as the early second century, Octavius could write to Vindolanda fort, Northumberland, justifying inaction with the excuse that 'I did not care to injure the animals while the roads are bad' (*TV* II 343). Pottery from the foundations of Dere Street at Piercebridge fort, County Durham, may bear out Octavius's reservations. Remarkably, given that Dere Street was the principal north-south highway bisecting eastern Britain, the pottery suggests that in places the metalled road was not laid until the late first or early second century, decades after the region was originally pacified (Cool and Mason 2008, 96). Recent work at Hayton, East Yorkshire, has emphasised that the fort founded there was articulated with Iron Age routeways. By the time that the local stretch of metalled highway was constructed, the fort had already been abandoned (Millett 2015, 547–554). That the Hayton garrison could operate perfectly effectively for around two decades using the Iron Age route network reinforces the sense that 'a connecting network of metalled roads may not have been the highest priority for the occupying forces' (Poulter 1998, 54).

Unlike rivers, it seems counter-intuitive to perceive roads as both an instrument of division and a method of connectivity. Nevertheless, the closest Roman equivalent to the modern word 'frontier' was '*limes*'. Before this term was applied to frontier zones, it was in common parlance to mean 'road' (Whittaker 1994, 200–202). It has been emphasised that roads were usually an essential ingredient of frontier works, making the appropriation of '*limes*' less incongruous than it initially appears (Goldsworthy 2003, 155). In regions where there was no running barrier, a highway could represent the only artificial linear element. What is more, this cleared strip of ground could aid attempts to monitor, control, or restrict movement. Its potential value is illustrated by numerous ancient historical allusions to elusive enemies. Cassius Dio has Boudica remark that 'we go to ground in swamps and mountains, the nature of which render us undetectable...', and he later opines that the peoples beyond the Wall in the early third century 'plunge into the marshes and stay there for many days with only their heads above water' (*History of Rome* 62, 5, 76, 12). While this latter insinuation belongs to the rich corpus of innuendo peddled about the barbaric qualities of the Britons, the subtext suggests adversaries that were hard to find. An oft-quoted passage from Julius Frontinus's *Stratagems* discloses a similar situation in first-century Germany, and a solution to it:

When the Germans in their usual manner kept emerging from their clearings and hiding-places to attack our troops, finding a safe place in

the depths of the forest, the Emperor Domitian, by advancing the *limites* through 120 miles not only changed the character of the war, but brought the enemy under control by exposing their hiding-places.

(*Stratagems* 1, 13, 10).

These *limites* were traditionally believed to be a Domitianic *cordon sanitaire* scythed through the forest along the Taunus ridge, Hesse. Although the Taunus towers are now attributed to the Trajanic period, the text is still taken to refer to the creation of a cleared strip and routeway of some kind to frustrate guerrilla warfare (Kortüm 1998, 52; Thiel 2009, 135). It has been observed that two fortlets possibly founded in the AD 80s or 90s at Hanau-Mittelbuchen in the fertile Wetterau region to the east of the Taunus might be linked to the Chattan war (Reuter 2004, 105). Either way, there are strong indications that the potential for outposts artfully arrayed along a road or linear clearing to diminish undetected movement was fully appreciated by the Flavian period.

There is no reason to assume that roads within a military zone were open to everyone. Numerous passes issued to civilian traffic have been recovered from the Egyptian Eastern Desert. The text is typically short on personal information, confining itself to the date and number of individuals and animals it vouched passage for. One example states: ‘Antoninus, centurion, to the *stationarii*, greetings. Let pass two donkeys, one man. 16th Phaopi’ (*O.Claud* II 59). These permits were issued by centurions or decurions – both of higher rank than any known fortlet *curatores* – and there are also examples of a centurion being petitioned to provide a pass (*O.Did.* 48, 49). Whether these permits are attributable to the particular military and taxation requirements of this zone is unclear, but it would not be surprising if passage along highways in sensitive areas was routinely regulated. Naturally, deploying personnel along roads was a prerequisite for any movement restrictions to be enforced. Given the potential outposts offered to control movement along and, in some cases, across highways, it is intriguing that there are pronounced differences in their distribution, both within Britain, and more widely between Britain and Continental Europe. To explore these differences, this chapter introduces a series of case studies that illustrate the scope and evolution of first- and second-century road control.

GERMANY

On present evidence the first- and second-century AD road outposts in Germany can best be characterised as localised measures rather than coordinated systems. A small tower-like structure was constructed 100m from the Roman fort at Augsburg, in the Raetian Voralpenland during the late Augustan period (Fleps 2003). Despite its peculiar proximity to the fort, this tower indicates that outposts were used along roads within freshly conquered territory from an early date. This fits with the erection of three stone towers

along the Walensee route in Switzerland during the Augustan period (Legler-Staub et al. 1960; Laur-Belart 1962). A broadly comparable fortification to Augsburg was raised at Rheinberg in the AD 70s, beside a road traversing the west bank of the Rhine (Binding 1968), but in general fortlets seem to have superseded towers as the road outpost of choice over the course of the first century. If there was ever a golden age of early outposts along the road network in Germany, then Rheinberg coincides with it. Most of its contemporaries, though, were constructed to the east, not west, of the Rhine. This can be linked to a flurry of road building intended to accelerate communications between the Upper Rhine and Upper Danube armies. The re-entrant angle created by these rivers as they near their headwaters formed a natural funnel, slowing communication between the two provincial armies. Although an early road may have connected Hüfingen on the Upper Danube with Riegel, just east of the Upper Rhine (Sommer 1999, 170), the shortage of thoroughfares crossing the wedge of land between the two rivers was keenly felt during the AD 69–70 Batavian revolt.

Once this insurrection was suppressed, attention turned to annexing territory east of the Upper Rhine and north of the Upper Danube. The intention is neatly summarized by a milestone from Offenburg dating to AD 72/73, which declared it stood on ‘a direct route from Strasbourg into Raetia’ (*CIL* 13, 9082). This initiative resulted in roads linking Mainz and Strasbourg to Raetia, and at least a handful of fortlets supervised these new thoroughfares. A fine example lay at Gernsheim-Allmendfeld, where the Mainz highway crossed the boggy Hesse marshes just east of the Rhine (Göldner 2001). Further south, posts at Offenburg-Rammersweier and Frittlingen seemingly secured opposite ends of a road penetrating the Black Forest (Sommer 1992, 360; see Fig. 43 in Chapter 6). Further road fortlets, at sites such as Altenstadt and Ohrenbacher, are likely to be intimately associated with the evolution of the Upper German *limes* (see Fabricius 1933, 23–25; Schönberger and Simon 1983; Baatz and Herrmann 1982, 462). Nevertheless, enough outposts are known to demonstrate that measures were taken to protect and – most likely – control traffic along roads in newly conquered territory. As along the Rhine and Danube, our knowledge is fragmentary and further outposts associated with the burgeoning road network must await discovery. Even allowing for these, though, the German networks were surely eclipsed by the scale and ambition of the outpost systems that flourished along British roads in the first and second centuries.

WALES

We have already seen that bending the Silures of southern Wales to the imperial yoke consumed a quarter of a century. Once Silurian resistance was broken, the occupation of Wales itself followed swiftly. Military progress can

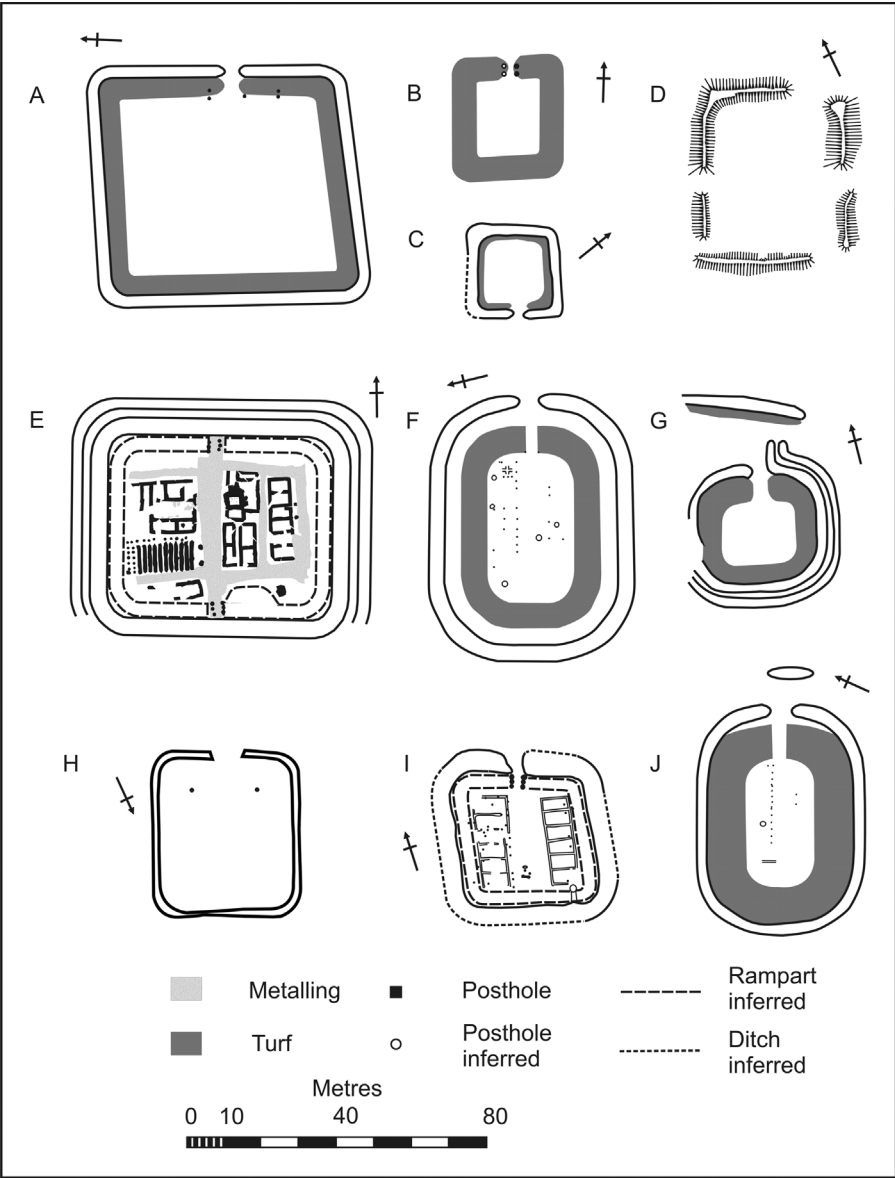
be traced with a lesser or greater degree of chronological and geographical precision through the historical and archaeological evidence. The first indication of direct conflict between Roman forces and the occupants of what is now Wales occurs in the pages of Tacitus, who records a campaign against the 'Decangi' in AD 47–48 (*Annals* 12, 32). This is believed to be the group we know as the Deceangli, who populated the coastal district of northern Wales. According to Tacitus, the Decangi spurned pitched battle in favour of what sounds much like the tactics of asymmetrical warfare. The Roman force had 'nearly reached the sea facing Ireland', when trouble among the Brigantes compelled them to withdraw. Further success followed when Roman units defeated Caratacus, the poster boy of British resistance, and his Ordovician allies, whose territory lay in north-central Wales. Despite the deadlock in Siluria, progress in northern Wales allowed the governor Suetonius Paullinus to conduct an amphibious assault on Anglesey in AD 60. It was there that Suetonius learnt of Boudica's revolt (*Annals* 14, 30), forcing him to abandon Anglesey, and presumably also a substantial swathe of northern and central Wales. In the aftermath of the revolt, both the historical and archaeological records indicate that inertia reigned along the Welsh frontier until the advent of the Flavian emperors. In AD 73/74 Julius Frontinus finally subdued the Silures, while Tacitus credits his father-in-law Gnaeus Julius Agricola with crushing the Ordovices and recapturing Anglesey in AD 77/78 (*Agricola* 18; Burnham and Davies 2010, 37–43).

Although the majority of Welsh fortlets and both of the potentially early freestanding towers have yet to yield direct dating evidence, it is probable that the earliest examples emerged during the Flavian period (Fig. 14; Fig. 15). This coincides with the establishment of a road and fort network, signifying 'the transition from a mobile force to an army of occupation' (Burnham and Davies 2010, 44). The scale of the occupying force has been criticised for 'overkill', but it also ushered in 'a period of experiment in which large and small garrison posts, and intervening fortlets, were ingeniously utilised to control a very large and often mountainous tract' (Davies 1980, 261; Burnham and Davies 2010, 48). Wales certainly offered a tabula rasa on which to sketch out new approaches to consolidating territory, although the methods presumably drew on earlier experimentation with road fortlets in south-west Britain. One major innovation that may have originated in Wales involved deploying garrisons in what has been called a 'fort-fortlet-fort pattern of control' (Davies 1979–1980, 726). As this description implies, 'interval' fortlets were built along roads in locations that often lay approximately equidistant between two forts.

Assessing the priorities apparent in the precise positioning of these 'interval' fortlets indicates that rather than being arbitrarily sited at the precise midpoint between forts, they were placed to maximise their impact. This is most obvious at Penmincae and Hafan (Fig. 16), which control important river crossings, while



14 Flavian Wales and Exmoor.
Credit: Ian Bull



15 Fortlets on the road network in Wales, the Pennines, and south-west Scotland: (A) Llanfair Caereinion, (B) Pen y Crocbren, (C) Hirfynydd, (D) Maiden Castle, (E) Castleshaw, (F) Milton, (G) Redshaw Burn, (H) Lantonside, (I) Barburgh Mill, (J) Durisdeer.
After: Putnam 1964; Putnam 1961; RCHMW 1976; Welfare 2001; Walker 1989; Clarke 1952a; RCAHMS 1978; Maxwell and Wilson 1987; Breeze 1974; Clarke 1952b

Waun-ddu was offset to the west of the midpoint between the forts at Llandovery and Brecon Gaer (Fig. 14), so that it could command a prominent ridge edge. Where the lengths of highway between neighbouring forts followed a ridgeback, outposts were typically founded on suitable if unprepossessing



16 The ditches of the fortlet at Hafan, visible on a knoll overlooking a probable crossing of the River Banwy.

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© Hawlfraint y Goron: Comisiwn Brenhinol Henebion Cymru

highpoints, as at Hirfynydd and Pen y Crocbren (Fig. 15). This latter installation produced Antonine pottery, and is notable for lacking a defensive ditch, seemingly because the construction team did not care to drive it through the underlying bedrock (Putnam 1964, 23; Fig. 17). By contrast, Erglodd fortlet lies 500m from first- or second-century furnaces and waste from lead-silver extraction (Davies 2010, 293–295). A handful of other early fortlets also appear to have been sited with reference to mineral extraction, including the post at Pumpsaint associated with the Dolaucothi gold mines (Burnham and Burnham 2004, 318–320). If the possible towers at Careg y Bwci and Llety Canol are early, they seem to be localised measures geared towards improving surveillance of discrete stretches of road. Fortlet sizes vary considerably, ranging from the c. 4,060m² enclosed at Pen Llystyn to an internal area of c. 261m² at Hirfynydd, with many of the smaller examples occupying nondescript ridgeback positions between forts. In general, the early outposts along the Welsh road system seem best suited to regulate and safeguard passage along roads.

Post-haste

The Flavian web of fortlets and forts in Wales appears to coincide broadly with the establishment of the *praesidium* system in the Egyptian Eastern



17 Pen y Crocbren fortlet.

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Desert. Although several ‘interval’ fortlets in Wales occupy key locations on the road network, the presence of others along unremarkable ridgebacks implies that the need for such installations transcended purely topographical motives. Part of the explanation is presumably that it was simply prudent to maintain garrisons in remote areas traversed by supply convoys, but it seems likely that the fortlets were also designed to discharge one of the principal roles of the desert *praesidia*: the rapid transmission of military circulars. Even though most of the surviving correspondence dates to the Trajanic and Hadrianic periods, there is no reason to believe that this military postal system was retroactively grafted onto the *praesidium* network. The intervals between forts and fortlets in Wales tend to be closer to 10km than the c. 20km distances on the developed system along the Myos Hormos road, but in both cases switching to a fresh rider and horse at these points would accelerate transmission time. Despite this utility, although a number of Welsh forts were retained and rebuilt in stone when the military situation stagnated, the fortlets appear to have been abandoned. This suggests that a rapid relay system was only a feature of zones that were actively being pacified.

A fragmentary postal journal dating to AD 108 was recovered from Krokodilo *praesidium* on the Myos Hormos road (Fig. 7). An extract from this document allows a glimpse of the mechanics of the system:

1st round. 30th. The letters sent from Myos Hormos were carried from Persou by Domitius, rider, at the 3rd hour of the day; to Phoinikon: Kaigiza.

...

5th. The 3rd round. To Phoinikon with the camel (or camel driver) to pick up empty amphorae (?): Aestiv(i)us.

8th. The 1st and 2nd (rounds) to Phoinikon to accompany the centurion Aurelius: Kaigiza, Eial.

18th. The 3rd round. From Persou 10 mullets were brought by Sabinus at the 6th hour of the night; to Phoinikon: Aestiv(i)us.

20th. The 1st round. 4 parrotfish were brought from Persou by Petronius in the 5th hour of the day; to Phoinikon: [crossed out: Aestiv(i)us] Kaigiza.

(*O.Krok.* 1)

This day journal was either composed by, or under the instruction of, the *curator* of Krokodilo (Cuvigny 2005, 11). The information he saw fit to record includes the date and hour the post arrived, which was presumably also the hour it left, the location from whence it came, and where it was bound – invariably the neighbouring garrisons at Persou or Phoinikon – and who was detailed to carry it. Occasionally a *précis* of important memos was included. Noting the arrival time suggests that speed was of the essence. In most cases riders were dispatched between the third hour of the day (8 AM) and the first hour of the night (6 PM). The exception is Aestivius, who departed at the sixth hour of the night (11 PM) with ten mullets that were probably destined for a senior figure's table. As Cuvigny wryly observed, the hour was presumably dictated by the produce, as 'fresh fish does not wait' (2005, 17–18). An epilogue to Aestivius's nocturnal sortie appears in the next entry, when two days later he was nominated to ride out again. Instead, his name was crossed out and his comrade Kaigiza was despatched instead. This bungled attempt to assign Aestivius a second consecutive relay detail after his overnight ride implies a failure by the *curator* to exert his will. It is tempting – though naturally speculative – to attribute such clumsy management to the *curator's* inexperience as a commander.

The careful recording of riders' names and their destination could be construed as an attempt to keep track of soldiers' whereabouts. After all, 'desertion was endemic in many pre-industrial armies, and could – if unchecked – render them essentially ineffective' (Haynes 2013, 3). Today, desertion is popularly perceived as a reaction to the perils of battle, but in the Second World War, three out of every five British soldiers convicted of the offense abandoned their post while still in the United Kingdom. J. H. Sparrow,

who prepared assessments of morale among British forces during the war, remarked in a letter to his mother that: ‘You could not make a bigger mistake than to suppose that morale in battle is what the War Office is concerned about . . . the problem is exactly the reverse – to keep up the morale of the Army during long periods of boring inactivity’ (cited in Allport 2015, 106–108). If this was also true of the Roman military, then ‘long periods of boring inactivity’ would seem to be a fair synopsis of the general rhythm of life on outpost duty as recorded in the desert *ostraca*. On this basis, such postings may have proven fertile ground for desertion. This may have been one of the reasons why fragmenting units so exercised Emperor Trajan.

Residual Garrisons

Drawing down the Welsh garrison appears to have begun as early as the AD 80s, a process that gained pace at the turn of the first and second centuries AD. Potential reasons for this include Trajan’s Dacian wars and the unrest that appears to have plagued Britain early in Hadrian’s reign (Burnham and Davies 2010, 48–49). By either reading, the underlying cause was that this pool of manpower was more urgently needed elsewhere. Rather than creating voids in the military control network, several auxiliary forts were either reduced in size or replaced by fortlets. One consequence of this was that on some routes the former ‘fort–fortlet–fort’ arrangement became weighted more heavily in favour of the fortlets. This reconfiguring of the control system may have been born of necessity, but the increased reliance on smaller installations is both closer to the Eastern Desert configuration, and seemingly later replicated in parts of southern Scotland. As such, this solution to retaining a dispersed military presence in the face of dwindling manpower was presumably judged a success.

THE GASK RIDGE

The Gask Ridge is often viewed as a prototype land frontier (Woolliscroft and Hoffmann 2006, 225–234), but in recent years both its date and purpose have become mired in controversy. In its developed form the Gask system comprised a sequence of three or four forts, three fortlets, and a cordon of towers strung out at varying intervals along a 40km stretch of highway in east Scotland (Fig. 18; Fig. 19). This trunk road ran north–east and east through a natural corridor separating the Highlands from the Ochil Hills at the hilt of the Fife peninsula. The route capitalises on the opening stretch of a natural passage skirting the Highland fringe. The Roman army exploited this route, and probably established marching camps at least as far north as Bellie (Jones 2011, 325). By comparison, the known length of the metalled Roman Gask road is more modest and has only been traced as far north as the hinterland of a



19 The Gask Ridge tower at Kirkhill

fort on the River Tay at Bertha, while to the south its course is lost shortly after the fortlet at Glenbank. Although the full extent of the tower cordon remains unclear, all of the fifteen or eighteen examples lie north-east of Glenbank fortlet and south-west of Bertha fort. The intervals between the towers can drop to below 900m (see Fig. 18; Woolliscroft 2002; Hanson 2009, 53–54), creating a close-set chain of installations that was unprecedented on the road network. Observers in the forts and outposts would place most of this stretch of highway under direct surveillance (Woolliscroft 2002, 5). As it stands, the Gask system appears well suited to block access to the Fife peninsula from the Highlands. This prompted the longstanding belief that the system was configured to shield a friendly client kingdom – the Venicones of Fife – from hostile Highland peoples (Hanson 1987, 157).

Despite the modest assemblage of datable finds from the Gask outposts, it is widely accepted that the cordon was occupied once, during the Flavian period (Woolliscroft 2002, 4–5). If so, our wider knowledge of Roman military activity in Scotland should help to refine the system's chronology (Fig. 18). Tacitus's eulogy to his father-in-law Agricola provides details about the early years of this campaign. The narrative describes operations commencing in AD 77 or 78 and culminating in the set-piece battle at Mons Graupius in 83 or 84, when the Roman *auxilia* won a decisive victory over the indigenous host. The end of Roman operations north of the Clyde–Forth isthmus can be dated with unusual precision from the archaeological evidence to c. 87 (Hobley 1989). This is thanks to a quirk in coin supply, which resulted in some issues being shipped to Britain in greater quantities than others. Crucially, there is a glut of coins minted in 86 and 87, but although the forts north of the Clyde–Forth isthmus have produced issues of 86, there are none from 87. This suggests that

they were still held when the coins of 86 arrived, but had been abandoned before the coins of 87 could reach them. Combining Tacitus's account with the numismatic evidence suggests the Flavian Scottish moment endured for less than a decade (Hanson 2009, 52).

Establishing when during this narrow chronological window the Gask cordon was initiated remains controversial. Tacitus states that Agricola's opening assault on Scotland, in AD 79, penetrated as far north as the Taus, which is believed to be the modern Tay. The following summer, Agricola's fourth as governor, was spent consolidating this territory, an operation that included constructing *praesidia* along the Clyde–Forth isthmus (*Agricola* 22–23). A strong candidate for one of these *praesidia* has been excavated at Mollins (Hanson and Maxwell 1980) and is identifiable as a fortlet, demonstrating that out-posted detachments were being deployed in Scotland by c. 80. This follows the initial advance far more rapidly than in Wales, and seemingly represents the earliest possible date for the Gask cordon, giving the system a maximum lifespan of about seven years. Woolliscroft considers this to be irreconcilable with the archaeological evidence, pointing to multiple phases in various Flavian forts and indications that some Gask towers stood long enough to need replacing at least once (Woolliscroft 2009, 36). Hanson rejects this line of argument, convincingly questioning the evidence for wholesale rebuilding of some Gask towers (Hanson 2009). The near-absence of finds from the fortlets would certainly be surprising if they had been occupied for an extended period, and it seems most likely that the lifespan of the Gask cordon was restricted to a couple of years within the 80 – 87 bracket.

Establishing a role for the Gask system is complicated by the existence of a chain of forts in advanced positions beyond the road, placing Roman units in the mouths of the Highland glens. These could have either blocked the approaches to the lowlands or provided a springboard for an offensive into the massif that never materialised (Breeze 1982, 55). Although the latter motive appears most compelling, it raises the question of why a line of control would be established to the rear of the forts. The numismatic evidence indicates that the Gask fort at Strageath was evacuated at the same time as the glen forts in c. 87 (Hobley 1989, 73), making a shared purpose irresistible. One explanation is presented by the first-century situation on the Raetian Danube and Exmoor coast, where forts seemingly configured for advance coincided only partly with a line of control created by fortlets on the former, and not at all on the latter. When the Gask cordon was originally interpreted as a frontier line, it was seemingly contemporary with the Taunus ridge tower chain in Germany. Subsequent redating of the Taunus system to the early second century briefly left the Gask arrangement isolated, until indications emerged that a late-first-century close-control system existed in the Wetterau, east of the Taunus (Reuter 2004, 105–106). Despite the existence of this potential parallel, three



20 Inverquhar occupies a plateau overlooking a probable crossing of the South Esk River.

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alternative explanations for the Gask system have been proposed: a signalling network, a surveillance system within a wider frontier zone, and a mechanism to protect supplies along the road (Breeze 2009a, 60). It is widely accepted that the towers are more numerous than a signalling system would require, which leaves the possibility of surveillance or a secure highway.

Although the Gask road was essential to provision Roman forces in the region (Dobat 2009, 46–47), at first glance the configuration of outposts along it is jarringly different from earlier highway security measures. This divergence, though, is entirely attributable to the towers. Considering the sequence of Gask forts and fortlets alone reveals the same ‘interval’ fortlet technique employed in Wales. Furthermore, this fort-fortlet-fort configuration can be traced beyond the apparent tower cordon terminus at Bertha as far north as Stracathro, implying that this was intended to be the head of the road (Fig. 18). The topographical positions of the fortlets that fall both within and without the canonical Gask sequence reveal consistent priorities. This is well illustrated by the most northerly fortlet currently known in this sequence, and indeed the Empire, at Inverquhar, which lay approximately midway between the forts of Cardean and Stracathro. Inverquhar occupied a promontory commanding the confluence of the Prosen Water and the South Esk River, and the likely crossing of the latter (Fig. 18; Fig. 20). The other fortlets along this line

also occupy locations favoured by 'interval' fortlets, indicating that rather than breaking with precedent, the essential building blocks of this system regurgitated an established format for road control. On this basis, it seems certain that a metalled road was intended to extend at least as far as Stracathro, but remained an unsurfaced track when the c. 87 withdrawal was executed.

Given that established road-control techniques were employed between Doune and Stracathro, it is striking that the closest known parallel for the placement of the towers is the proposed mid-first-century chain on the Rhine at Utrecht. Although too much remains uncertain about the Utrecht towers for these similarities to be pushed with confidence, the indications that they were placed immediately adjacent to the river matches the proximity of most Gask towers to the road (Fig. 18). What little evidence there is for earlier tower use along roads suggests that they were often paired with larger installations to increase the area under permanent observation. These towers would be positioned at a greater distance from the highway when the surveillance dividend justified it. A presumably contemporary example of this approach lies to the east of the Gask cordon, where the Black Hill tower occupies a hilltop on the far side of the River Isla from the fortlet and fort at Cargill, leaving it well placed to act as a satellite. The tight ordering of most Gask towers along the road (Woolliscroft 2002, 1) implies a functional reason why they needed to be immediate to the highway. Given the use of missile troops within the Utrecht towers, it is legitimate – but speculative – to wonder whether they were also present in the Gask towers. If so, positioning them close to the road would maximise the length that lay within range.

The presence of towers is not the only feature that marks out the stretch of road between Doune and Bertha as a particular priority. The forts and fortlets lie much closer together here, with the interval between Kaims Castle fortlet and the two neighbouring forts amounting to 3.6km and 6.5km, rather than the distances of 17km and 22km between Inverquhar and its neighbours, indicating a deliberate attempt to tighten control along the Gask stretch of the highway. If the Gask towers were solely intended to secure traffic, there is no obvious reason for this inconsistency, unless the principal fear was raiders or bandits attacking from Fife. This is conceivable, as there is no certainty that the Venicones inhabiting Fife were friendly, while the limited evidence for Flavian military activity within the peninsula makes it doubtful that the region had been systematically pacified before the Gask system was installed (Dobat 2009, 44). It is also suggestive that numerous Gask towers command a view towards Fife rather than the Highlands (Woolliscroft 2002, 5).

Even so, unless the pressure on the Gask was severe, the proximity of the towers does seem out of proportion to the needs of road security. One further possibility is that the Gask represents a hybrid system, which combines highway security with an ability to enforce north–south movement restrictions. Rather

than being designed to shield the Venicones, this could have been developed with an eye to protecting Roman supply shipping using the Firth of Forth. For over 80km the Fife peninsula acts as the northern shore of the Firth (Fig. 18). Allowing hostile groups or pirates to operate from its coastline would pose a threat to military supply shipments. By closing access to Fife from the Highlands, the Roman army would have minimised the ability of groups living there to enter the peninsula and interfere with maritime supply. It would also have sent an unequivocal message to the Venicones that attacks on shipping could not be blamed on outsiders. This would in turn provide the Venicones with an incentive to ensure that disruption to Roman shipping was minimal.

Ghost Roads

Allowing an entire conquest strategy to hinge on a single highway bracketed by unpacified territory for 40km could be judged cavalier to a degree that makes it implausible. Yet supporting evidence that the Flavian priority in Scotland was to establish a skeleton communication network, which would be gradually fleshed out as control over its hinterland tightened, is provided by Tacitus. By the end of Agricola's fourth season, his biographer could boast that 'the whole expanse of country to the south [of the Clyde–Forth isthmus] was safely in our hands'. The very next year, though, Agricola reportedly campaigned against 'nations hitherto unknown' in what seems to be south-west Scotland, well to the south of the isthmus (*Agricola* 23–24). The denouement to this action is Agricola's wistful declaration that Ireland would be an easy prize, which could be taken to imply there was little of interest in south-west Scotland itself and that the army was engaged in a mopping-up exercise. Taken at face value, the implication is that Agricola's initial assault two years earlier had secured the major natural passages north, but left substantial tracts of territory to be pacified at a later date. Bypassing Fife could therefore fit with precedent, even if the associated tower cordon appears revolutionary.

The articulation of installations established within the far south-west of Scotland in the aftermath of Agricola's apparently belated expedition provides a glimpse of Flavian ambitions for the region. West of Nithsdale, the known military infrastructure only amounts to a handful of temporary camps, a fort, and four permanent fortlets (Fig. 18). Two of these, Gatehouse of Fleet and Kirwaugh, occupy elevated positions overlooking rivers a short distance upstream of the lowest modern bridging points (St Joseph 1983; Hunter 2011, 335–336). The former fortlet has been dated to the Flavian period, while the design and setting of the latter is sufficiently similar to make contemporaneity certain. As we have seen, river crossings are a classic location for road fortlets, but a few isolated stretches of quarry pits far to the west in the vicinity of Stranraer offer the only compelling traces of a linking highway (Keppie

1993, 277–284). This may be a consequence of a Flavian attempt to either garrison pre-existing routes or drive metalled roads through the far south-west to bind it into the wider network being aborted before it reached fruition. If so, the extant configuration fossilises an inceptive Flavian approach to consolidation. This technique prioritised establishing routes or securing pre-existing thoroughfares with fortlets and forts in order to simultaneously open up the region to the military and close it off to unauthorised transit.

When considering Scotland more widely, there are a conspicuously large number of what appear to be Flavian road fortlets marooned many miles from the nearest metalled highway. In addition to the examples in the south-west and the outliers beyond the Gask road, there are isolated fortlets at Mollins, Castle Greg, and Bankhead (see Maxwell and Wilson 1987, 19; Maxwell 2015). Of these, Mollins has been described as ‘never physically linked to the road network’ (Maxwell 2015, 291), but perhaps it is more likely that these posts indicate that numerous thoroughfares used by the military in the first century AD never received a hard standing, rendering them difficult to detect archaeologically. It is equally conceivable that some of the roads we assume were metalled in the Flavian period did not receive this treatment until the Antonine occupation. If so, movement in those areas could have been severely disrupted by deteriorating road surfaces during the winter months. If key infrastructure had yet to be installed when the number of Roman soldiers in Britain was reduced in c. AD 87, it may well have compounded a sense that the remaining force was overstretched.

THE PENNINES

The impetus for the late-first-century retreat from the Scottish Highland fringe lay not in Britain, but on the Continent. Acute pressure from the Dacians forced the redeployment of one of the four British legions, the *II Adiutrix* and a sizeable number of *auxilia* to the Danube. This may have cut the strength of the Roman army in Britain by a quarter, a reduction in manpower that proved permanent. Subsequently, Rome’s British project was only able to draw on the three resident legions and their *auxilia*, except when imperial ambitions or periods of dire necessity saw reinforcements temporarily ferried across the Channel. We have already seen that the immediate consequences of the redeployment of the *II Adiutrix* probably include the shelving of a planned offensive into the Highland massif, and a realisation that holding the territory north of the Clyde–Forth isthmus had become untenable. This abrupt reversal precipitated a drawn-out retreat from Scotland, and by AD 105 the Roman army had fallen back to the Tyne–Solway isthmus (Hartley 1972, 15; Bidwell 1999, 12–13). The reconfiguration of installations along this line is considered in the next chapter.

Elsewhere in northern England, space needed to be found to accommodate the units redeploying from Scotland. This may have presented an opportunity to consolidate territory to the south of the Tyne–Solway line by garrisoning areas that had previously ‘not been fully subjugated’ (Bidwell and Hodgson 2009, 15), suggesting that just as in Scotland, subsidiary territory had been bypassed as the army advanced north. Although forts were established in the Pennines during the early Flavian period, there are signs that existing control measures were revised in the early second century. These remote uplands form the spine of Britain, and rapid communication between the Roman units garrisoned in the north-east and north-west depended on roads traversing the Pennine passes. Despite this importance, the number of fortlets within the Pennines is low compared to some similar upland areas of Wales and Scotland (Symonds 2015a).

Three fortlets have been identified within the Pennines: Maiden Castle, Cumbria; Castleshaw, Greater Manchester; and Elslack, North Yorkshire. Only Castleshaw can be securely dated to the early second century (see Box 4), but cursory digging at Maiden Castle yielded finds dating from the mid second century to the fourth century, implying an extraordinary length of occupation for a freestanding fortlet (Collingwood 1927, 175). The fortlet at Elslack was probably founded in the fourth century (Toller 2013, 10). The following discussion will focus on Maiden Castle, which has an internal area of 1,665m² and lies 13km and 8km distant from the forts at Bowes and Brough-under-Stainmore, respectively. While this means that Maiden Castle adheres to the ‘interval’ fortlet model, it also lies at a height of 430m OD and dominates the western approach to the key Pennine pass at Stainmore, which was crossed by a major highway linking Carlisle to York (Welfare 2001).

The longevity of occupation at Maiden Castle is reflected by the provision of a mortared stone curtain, making it one of up to five possible examples of freestanding fortlets in Britain to be equipped with masonry defences prior to the fourth century AD (Fig. 15).¹ Only a minority of second-century fortlets associated with the British frontiers are known to have been originally constructed in stone, so it seems most likely that the masonry installation at Maiden Castle was founded to replace an as yet undetected turf predecessor (Symonds 2015a, 89). If so, it is conceivable that the first fortlet on the Stainmore pass was erected during the early second century. While this would represent a more conventional progression from a turf to masonry structure, Maiden Castle would still be exceptional for being judged sufficiently indispensable to qualify for a stone rebuild once the turf installation decayed. The

¹ The identification of these depends on whether Haltwhistle Burn is identified as a freestanding or frontier fortlet, whether Breeze’s suggestion that a masonry fortlet existed at Kirkham is correct (pers comm.), and whether Cappuck is a fortlet. The other example is Pumpsaint.

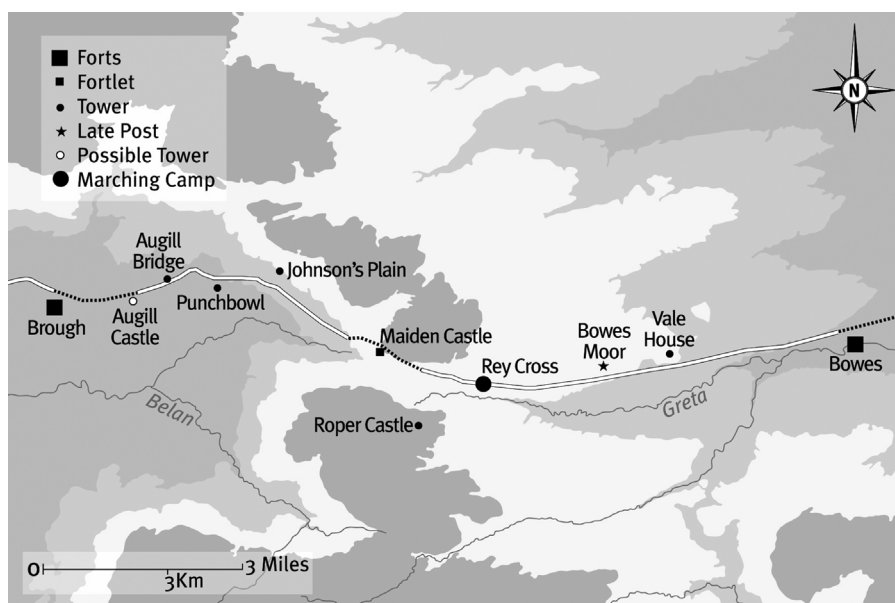
Box 4: Castleshaw

Castleshaw is the finest example of a larger fortlet in north-west Europe that has been dug to modern methods (Fig. 15). Even so, its internal area is only 1,950m², meaning that it is still less than half the size of the largest fortlets currently known. Although the location of the fortlet has been described as ‘strategically marginal’ (Redhead 1998, 74), it controlled an important Pennine pass used by the highway linking the legionary fortresses at Chester and York. The fortlet can be dated to c. AD 105–125 and occupies the former site of an auxiliary fort. It has been estimated that a time-lag of about a decade separated these two installations (Richmond 1922–1923, 160), although this interval is questionable (Bidwell pers. comm.).

The precise role of many of the buildings erected within Castleshaw remains unclear, but it is certain that most space was given over to structures that were not barrack blocks. Accommodation for the ordinary soldiers was tucked away in the most easterly of three blocks of buildings within the fortlet, and the only one that could not be directly accessed from the road bisecting the installation. This barrack block contained six rooms, prompting estimates of a forty- to eighty-strong garrison. Flanking the central road are a granary, what appears to be the commander’s quarters, and three structures of uncertain purpose. One is almost certainly a workshop, and interpretations that have been advanced for the others include a *mansio*, *principia*, stable, and latrine (Walker 1989, 105–107).

This combination suggests a truly dual role for the fortlet. The estimated garrison size matches the numbers of soldiers calculated for fortlets that do not contain specialist facilities, implying that this is not a skeleton detachment operating the granary and workshop, but a full-size garrison. At the same time, the space devoted to ancillary buildings highlights their importance. As both the granary and putative workshop are well in excess of anything warranted by the fortlet garrison, it seems likely that the installation extended logistical support to official convoys (Symonds 2015a). This conclusion is reinforced by the presence of large fortlets along other remote stretches of the road network, including Pen Llystyn, Gwynedd, and, probably, Raeburnfoot, Dumfries, and Galloway. After all, the results could be disastrous if a mechanical fault left a convoy stranded in country that was not fully pacified, awaiting a replacement from a fort many miles distant.

motive was presumably the crucial importance of the Stainmore pass to military communications and supply. This significance has been reflected in more recent centuries by the insertion of a Second World War Type FW3/24 pill box at the eastern entrance to the pass (Peter Hill pers. comm.) and a cameo appearance by Maiden Castle in the second English Civil War. In 1648, a Parliamentary force of 300 foot and 200 horse was dispatched to capture it and Major-General Lambert later remarked that if the Royalists had held the fortlet ‘the enemy might probably have much troubled us if not stopt our



21 The military installations founded on the Stainmore pass between the forts at Brough and Bowes.

By Ian Bull

passage' (cited in Hill and Watkinson 2012, 51–52). His assessment is a testament to the fortlet builders' deft reading of the topography.

For a time, a fortlet at Maiden Castle probably operated in conjunction with a chain of timber towers (Fig. 21). The Stainmore towers are more loosely ordered than the Gask Ridge examples and dating them has proven problematic. Only one of the proposed sites, at Bowes Moor, has yielded direct dating evidence, in the form of fourth-century pottery (Evans 2001, 168). Yet this site differs from its supposed peers in numerous ways and probably belongs to a later refortification of the pass (see p. 194, Symonds 2015b, 55–58). The closest parallels for the remaining Stainmore towers lie in the first and second centuries, so an early second-century foundation date is possible, if speculative. The Stainmore tower at Roper Castle is especially interesting as it was raised on the reverse slope of a hillock over 1.5km from the highway. There it enjoyed an excellent prospect to the south and east, and plugged what would otherwise be a blindspot adjacent to the road (Farrar 1980, 224). From tower height, Roper Castle would be intervisible with Maiden Castle (Jones 2001, 197), suggesting that they were conceived as a pair and Roper Castle served as a satellite for the fortlet. In general, the tower positions suggest a desire to secure the road (Dobat 2009, 46) and perhaps monitor movement from the uplands towards the arable farmland in the Eden and Tees valleys, although the failure to rebuild these posts in stone shows that in time they became redundant. Nevertheless, the continued

occupation of Maiden Castle suggests that either complete security was never achieved or the importance of guaranteeing the safe passage of supplies and rapid transmission of messages over the pass demanded a permanent garrison.

Extramural Settlement

Small settlements existed beyond the defences at both Maiden Castle and Castleshaw. Such extramural agglomerations are frequently encountered outside forts and typically referred to as *vici*. As well as permitting military dependants to live in the shadow of a fort, the growth of *vici* attests to the economic attraction exerted by a captive audience of comparatively well-paid soldiers. These major new markets may well have destabilised traditional economic and even social structures in freshly occupied areas. Although it is assumed that fortlets generally did not have sufficiently large garrisons to attract such settlements, it is equally true that the area without the defences is rarely investigated. Settlement existed at the base of a slope near Maiden Castle, while a small offshoot of cultivation plots and possible houses lay on the same terrace as the fortlet and 40m to the south-east (Welfare 2001, 98; Symonds 2015a, 92). Test-pitting at Castleshaw established that a substantial area of extramural settlement developed in the early second century. This *vicus* was not defended with a rampart and ditch (Redhead 1998, 80–81), and there is also no sign that the settlement near Maiden Castle was defensible in any way. Such vulnerability implies that the neighbouring soldiers were perceived as a source of stability, rather than a target.

In the Egyptian Eastern Desert, small fortlet detachments evidently attracted entrepreneurs whose business model was to provide comforts to ease the soldiers' posting. We have already encountered Philokles, the pimp and greengrocer who ordinarily resided at Krokodilo. This character also cultivated produce at fortlets with a more forgiving climate (Bülow-Jacobsen 2012, 295–298), and it is tempting to see a parallel between this industry and the agricultural plots adjacent to Maiden Castle. Whether Philokles's other revenue stream found traction in the Pennines must remain speculative. In the desert, extramural buildings have proven elusive, prompting the assertion that 'far from forming *vici* outside *praesidia*, civilians who existed in symbiosis with these small garrisons lived with the soldiers inside the walls' (Cuvigny 2006c, 361). Although signs of denuded extramural structures were encountered at one desert fortlet (Maxfield 2005b, 739), a recent study at Vindolanda, where a clear *vicus* exists, has stressed that patterns of artefact loss imply the fort rampart did not rigidly demarcate 'civilian' and 'military' activity (Birley 2013). The limited accommodation available in most fortlets in north-west Europe leaves a question mark over whether dependants were routinely catered for

intramurally. What is intended can, of course, be very different from what occurs in practice, and the level of intermingling may have been determined by factors ranging from assessments of the danger to what the fortlet commander was prepared or induced to turn a blind eye to.

ANTONINE SCOTLAND

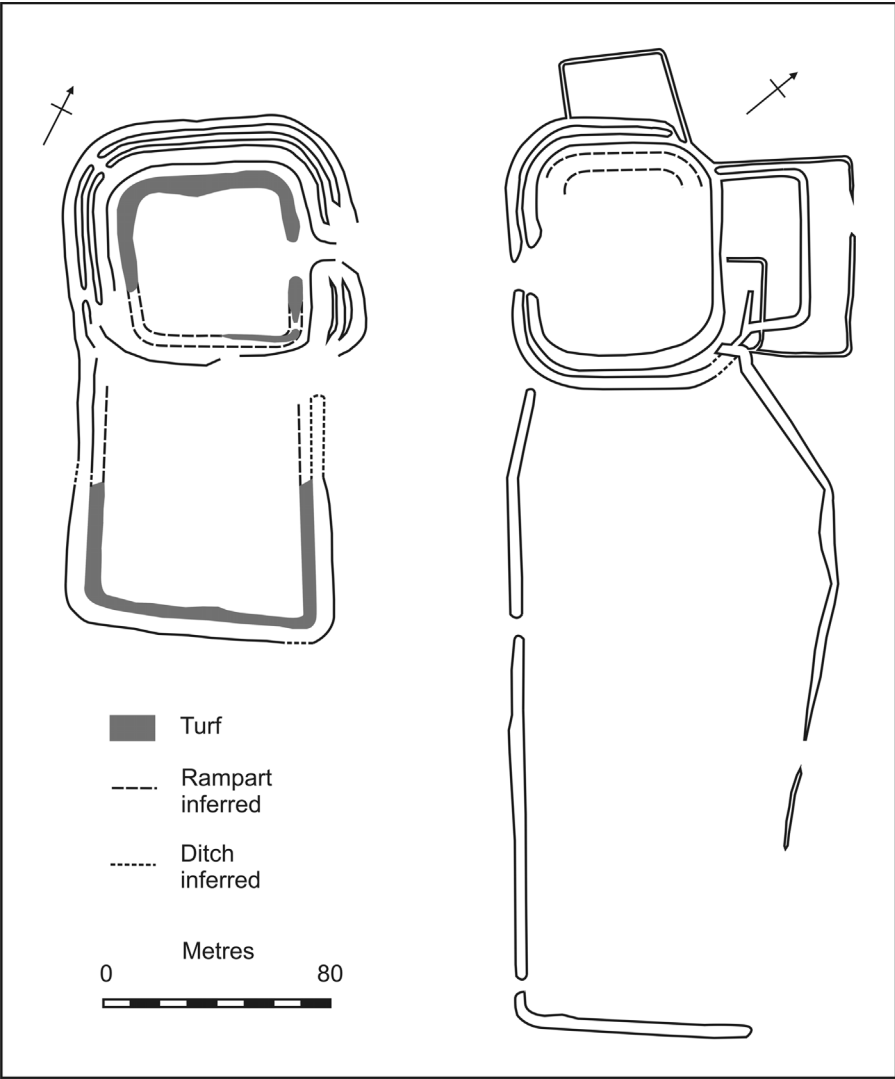
Chronologically, the Antonine road fortlets and towers in southern Scotland were established after the army abandoned Hadrian's Wall and once again attempted to bring the land south of the Clyde–Forth isthmus to heel. Assessing these installations leaves little doubt that the experience of operating the outposts along the Hadrianic frontier was still fresh in the minds of the military planners executing Emperor Antoninus Pius's Scottish invasion. Nevertheless, suggestions that the sequence in south-west Scotland is tantamount to rotating 'the Hadrianic defences of the Solway shore through 90 degrees' over-emphasises the connection (Maxwell 1977, 29). Rather than aping the earlier model, the southern Scottish road fortlets can be perceived as a calculated rejection of the comparatively rigid spacing system adopted on Hadrian's Wall and a qualified return to the 'interval' fortlet model. Designating the Antonine outposts 'road posts *par excellence*' is closer to the mark (Maxwell 1977, 25), as the system instigated in southern Scotland represents the apogee of early imperial experimentation into highway security in the north-west provinces. It would be over a century before such installations reappeared in any numbers in Germany and France, and over 200 years before they experienced a renaissance in Britain. As such, they represent the culmination of the process of development outlined in this chapter.

Antoninus Pius's precise motivation for reoccupying southern Scotland has been much debated. His entry in the *Historia Augusta* states that the emperor 'through his legate Lollius Urbicus drove back the barbarians and built a new Wall of turf' (*Antoninus Pius*, 5, 4). A garbled account by Pausanias points to intra-tribal trouble involving the Brigantes (*Description of Greece* 8, 43, 3–4), although some of the difficulties with interpreting his statement would disappear if 'Brigantes' was being used in its wider sense to mean 'upland people' rather than the formal Brigantian political entity recognised by Rome (see Haselgrove 2016, 472). An alternative theory holds that Hadrian's Wall lay too far south to provide an effective bulwark, but perhaps most likely is that the newly acclaimed emperor, a 'rather colourless aristocrat', simply required a military victory to entrench his position in Rome (Breeze 1980, 47). The invasion certainly occurred swiftly after Hadrian's death in AD 138. By 139 and 140, inscriptions refer to repairs at Corbridge and various northern forts, presumably in preparation for the campaign. By 1 August 142 the successful prosecution of the operation was acknowledged by Pius being acclaimed

Imperator for the second time (Breeze 2008, 25). Determining the date when military ambitions in Scotland once again turned to dust has proven more contentious. The accepted model since the early 1980s employed two phases of Antonine occupation, dating from c. 142–155 and 158–163, with an intermission attributable to a Brigantian uprising devised to provide a context for Pausanias's statement. As the Antonine road outposts are predominately single period, it was assumed they only belonged to the first phase. A reassessment of the evidence subsequently led to the conclusion that the Antonine Wall was occupied for a single phase from c. 142 to 158 and thereafter only forts serving as advanced posts for Hadrian's Wall were retained in Scotland (Hodgson 1995). This chronology has won wide acceptance and is adopted here.

The principal routes of penetration through south-east and south-west Scotland appear to have replicated those utilised in the Flavian period, with Dere Street providing the arterial route in the east. Two fortlets along its course are of particular interest due to the apparent provision of substantial annexes (Fig. 22). This is most conspicuous at Oxton, where a gigantic coffin-shaped enclosure with a footprint of 21,375m² dwarfs the estimated c. 3,250-m² area within the fortlet rampart (Fig. 23). The three certain entrances to this compound front onto the presumed course of Dere Street, and this facility may have allowed wagon teams to rest overnight before completing their ascent to a nearby pass. If so, the enclosure could provide a proxy for the size of official convoys travelling Dere Street (Maxwell and Wilson 1987, 25–26). Such a provision may be paralleled along the roads leading to the quarries at Mons Porphyrites and Mons Claudianus in the Egyptian Eastern Desert. Many of the *praesidia* along these routes were augmented with substantial compounds, which seemingly served as animal lines to accommodate the numbers of draft animals necessary to haul masonry from the quarries over the broken desert terrain (Maxfield 2001, 157–163). Where necessary, creating what were essentially secure car parks and 'service stations' seems to have fallen within the remit of fortlet garrisons.

Further south, a more modest compound appears to be appended to the c. 3,600m² fortlet at Chew Green (Fig. 22; Fig. 24). This installation lies amid a remarkable palimpsest of military works on a plateau opposite a steep descent that is deeply incised with successive courses of Dere Street. Although the earthworks running south of the fortlet defy easy interpretation, they may belong to an annex, or annexes. This was originally viewed as a 'wagon park', an attribution that has been challenged on the basis that the sloping ground within the compound is unsuitable (Richmond and Keeney 1937, 144; Welfare and Swan 1995, 89). Nevertheless, the Oxton annex encloses land that falls at an even sharper angle and it is noticeable that at both sites the angle of the slope drops away from the fortlet. This may have been a deliberate feature to ensure livestock excreta drained away from the garrison. The smaller size of the Chew

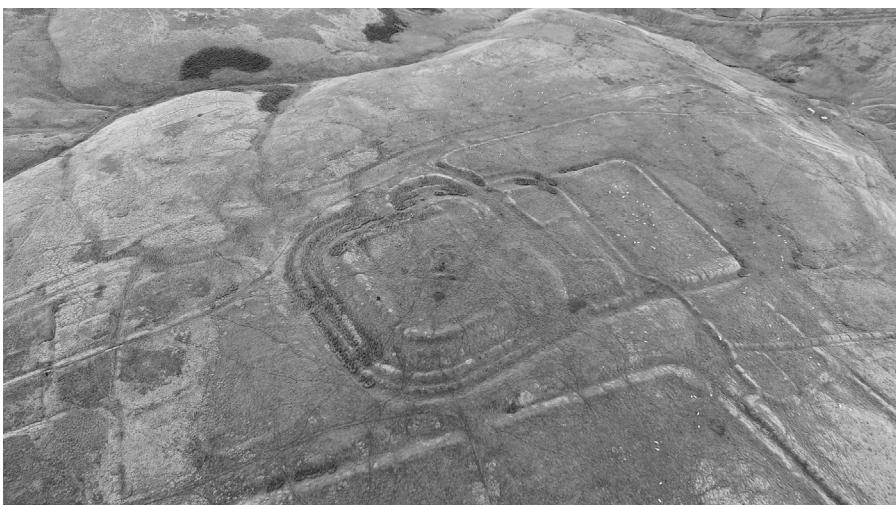


22 Two possible Antonine fortlets on Dere Street at Chew Green (left) and Oxton (right) appear to have been provided with annexes.
After: Welfare and Swan 1995; Maxwell and Wilson 1987

Green annex, at most only 6,675m², could have been compensated for by an adjacent temporary camp, which has an area of 24,500m² and was upgraded with metalled roads, suggesting repeated use (Welfare and Swan 1995, 88). It would be well-suited to sheltering large convoys. The presence of these probable Antonine fortlets near passes and steep climbs allowed them to serve a triple function: they were well placed to protect traffic and control passage at critical points, while also able to provide support facilities where wear and tear to convoy vehicles and indeed the road itself would be aggravated.



23 The possible Antonine fortlet at Oxton is distinguished by the giant coffin-shaped enclosure appended to it.
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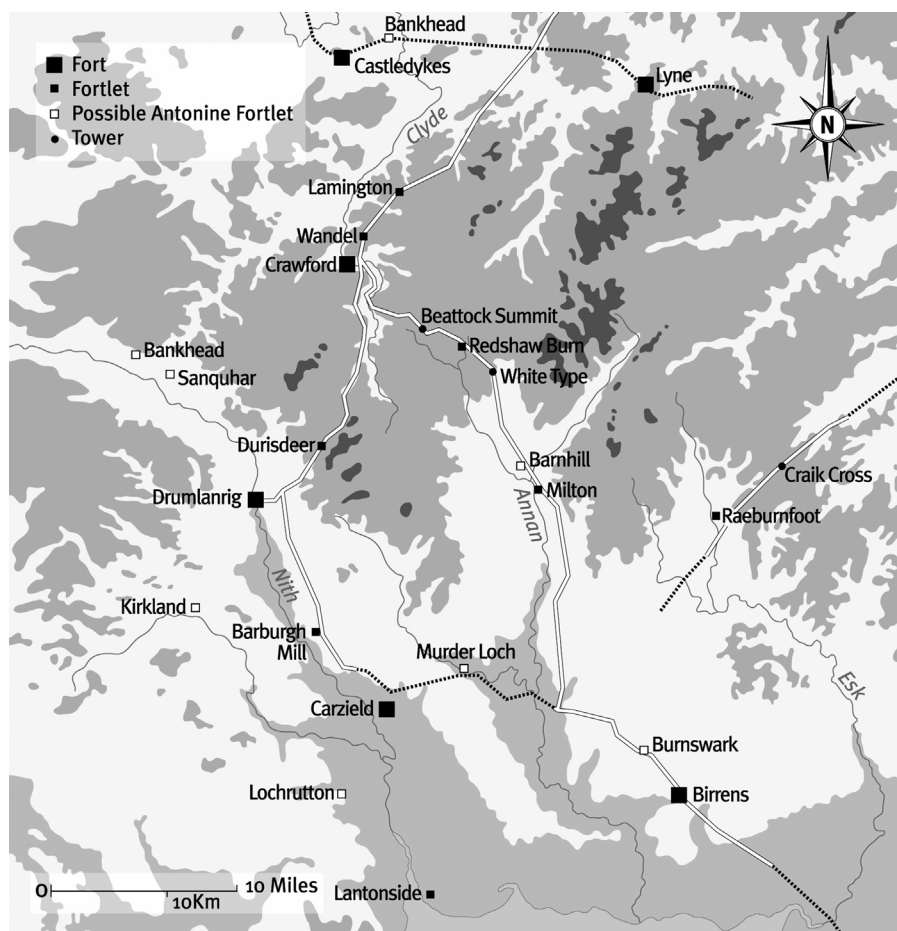


24 The fortlet at Chew Green, showing its triple ditches and possible annex to the south.
Credit: J. H. Reid

Annandale and Nithsdale

The main highway through south-west Scotland split at or near Ladyward (Wilson 1999, 40), with one branch striking north up Annandale, and the other looping west to exploit the high passes in upper Nithsdale. These parallel valleys are cleaved deep into the Lowther Hills, offering convenient natural passages. Driving roads through both valleys creates a redundancy, which may in part be explained by the nuances of the terrain. Annandale represents the most direct route, but the road's long climb up the western flank of the valley carries it to a height of 420m OD. The Kirkburn pass leading off Nithsdale allows the westerly highway to maintain a gentler gradient, rising to a maximum of 337m OD. If adverse weather closed the high road, then the low road provided an alternative option. The juxtaposition of these two highways certainly reinforces a sense that the army set a premium on ensuring the route north remained open. The two roads rejoined at or near the fort at Crawford in Upper Clydesdale. West of Nithsdale, there is no indication, beyond refurbishment of the fort at Glenlochar, that the apparent Flavian ambition to establish a road network through the far south-west towards Stranraer was resuscitated. Instead, resources were focused on securing the roads providing the life-support for the new frontier line.

It is widely acknowledged that the outposts founded in and around Annandale and Nithsdale, along the western routes north, permitted closer control of the road network than was usual (Fig. 25; Breeze 1980, 52; Symonds 2011). As along Dere Street, but unlike the Gask system, the emphasis was on fortlets, rather than towers. Considered in its entirety, this area of south-west Scotland represents the densest concentration of road fortlets in Britain. The factor, or more likely confluence of factors, that brought about this deployment remains obscure, but it is usually assumed that the answer lies within the human or physical geography, or the diktats of an arbitrary spacing system. Although the tenor of the topography remains evident to this day, reconstructing the human geography has proven more problematic. One school of thought holds that Roman influence in this region never truly dissipated following the collapse of direct control, allowing its denizens to be 'assimilated into the province with greater facility than is usually recognised' (Breeze 1980, 48). The counterpoint to this view is that the region lay on a politically unstable fault line at the interface between two or more indigenous groups. Ptolemy indicates that the boundary between the Selgovae and Novantae lay in the region, while an altar honouring *Dea Brigantia* from the fort at Birrens could imply that the influence of the Brigantes extended into the area (Maxwell 1977, 23; Breeze and Dobson 2000, 46). Tensions between these power-blocs may have been exacerbated in the late first century. It has been inferred that a Roman census of the *Anavionenses* – presumably the inhabitants



25 Installations erected along Nithsdale and Annandale in south-west Scotland. The possible Antonine fortlets are more likely to be either Flavian installations or indigenous settlements.

By Ian Bull

of Annandale – was a prelude to their men being conscripted into the army (Birley 2002, 95). If this reading is accurate, then weakening this group just before Rome relinquished formal control of the region could easily have altered the local balance of power with unpredictable results. In order to assess the military response to the physical and human geography, these aspects are considered in turn.

As Flavian fortlets were also founded in the region, establishing what period the known outposts should be assigned to is crucial to gauging their remit. Although the dating evidence is unusually comprehensive – with one fortlet on Annandale at Milton and two on Nithsdale at Barburgh Mill and Durisdeer being certain Antonine foundations, while the shape of Lantonside is most common during that period (Fig. 15) – the origins of the remainder are far less

certain. The discovery that the possible Barnhill fortlet predated a temporary camp has won general acceptance for a Flavian date (Maxwell and Wilson 1987, 25), while its location at a river crossing makes it a strong candidate to have served as a satellite for the nearby first-century fort at Milton. Murder Loch may well be another Flavian fortlet, as it lies on the putative route to the first-century fort at Dalswinton, rather than its second-century successor at Carzield. The location of Murder Loch on a plateau overlooking a river crossing is also closely paralleled by numerous Flavian road fortlets. Small, rectilinear Iron Age settlements also occur in the region, with farmsteads at Dalmakethar and Milton previously mistaken for fortlets. Given this scope for confusion, only those installations that can stake a reasonable claim to being Antonine are considered here.

Providing a brief sketch of the location of the Annandale and Nithsdale outposts reveals ample evidence that the terrain helped determine their precise setting. Along Annandale, the fortlet at Milton has an internal area of 907m² and was founded just south of a former Flavian fort (Fig. 15). The fortlet occupied a prominent ridge directly south of the confluence of three rivers and their attendant valleys: the Greenhill gorge, Moffat Dale and Annandale itself. It is hard to overstate the importance of this nodal point in the landscape, and today these three natural corridors are occupied by the M74, the West Coast Main Line, the A708, and the A701, respectively. The garrison at Milton was the key to controlling passage into or out of these valleys. Two kilometres north of Milton, the road commences its long ascent out of Annandale. As the road nears the conclusion of this climb, it turns north-west and adopts a sinuous course reflecting the contours of the wild and remote uplands that it traverses.

At its highest altitude, the highway passes the first of three outposts along this stretch, the tower at White Type. In fine weather, this enjoyed a view over the upper reaches of Annandale, and represents a classic satellite pairing with the fortlet at Redshaw Burn, 6.5km distant along the road to the north-west (Fig. 15). Redshaw Burn itself only encloses an area of 345m² and occupies a tactically weak setting, with a rising slope to the north of the fortlet creating dead ground that permits a downhill rush towards the gate. The fortlet does, though, command an impressive view south along the Greenhill gorge (RCAHMS 1978, 134). A second tower existed at Beattock Summit, a further 6.5km north-west. Despite the tower's name, it lies near the base of a steep slope, rather than a prominent highpoint, but overlooks both the south-east approach to the Greenhill gorge (Maxwell 1976, 37), and the upper reaches of Clydesdale, near the intersection of the Annandale and Nithsdale roads. Beattock Summit is not intervisible with Redshaw Burn, or any other known permanent installation, and it is unusual for a tower to be isolated in this way. The failure to erect Beattock Summit further to the south-east also created a blindspot where the road traverses the Fopperbeck Burn, which suggests that



26 Lantonside fortlet and outer enclosures appear as crop marks in this aerial photograph.
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the tower's location may have been constrained by it serving as a satellite for an undetected fortlet to the west. Elvanfoot Church, directly adjacent to the course of the Nithsdale road, would present a good candidate for such a site. If such a post existed, the presence of three fortlets between two forts would be exceptional in Britain, hinting at a deliberate attempt to provide greater coverage than the standard 'interval' fortlet model. Although patrolling would be needed to close the gap in visibility between Redshaw Burn and Beattock Summit, the articulation of outposts along the Annandale road are intelligible as a calculated attempt to maximise the benefits, and minimise the limitations, of the topography.

The influence of the terrain on military disposition is equally overt in Nithsdale, although here the known distribution of sites does broadly respect the 'interval' fortlet pattern. At Lantonside the fortlet commands a shelf of land capping a modest rise at the mouth of the River Nith, where it flows into Solway Firth (Fig. 15; Fig. 26). Today, the width of the watercourse narrows

from almost 2km to 1km as it passes the fortlet, but it is still far too wide for the garrison to appear credible as a means to inhibit passage upriver, unless they were equipped with a naval capability. While this is entirely possible, the presence of two compounds adjacent to the fortlet suggests that the garrison controlled a transshipment point where goods could be offloaded from supply ships sailing up the west coast. This cargo could be transferred to lighters for the journey upriver. Developing an Antonine hub at Lantonside would both allow the army to tap into the developed maritime supply system that previously served the western end of Hadrian's Wall, and circumvent nearly 50km of overland transit between Carlisle and Nithsdale. This raises the question of why switch to road transport at Nithsdale, instead of simply completing the journey by sea to the western end of the Antonine Wall. One possibility is that materials arriving via the Nith were purely intended to provision the local garrisons, and the majority of supply ships continued to the Clyde.

It may be significant that there is currently no indication that Antonine outposts secured the south-west Scottish seaboard between Lantonside and Outerwards, near the mouth of the Clyde. If this absence is real rather than apparent, it is puzzling given that the channel separating Ireland from Scotland is only 35km wide and that elsewhere in Britain fortlets were repeatedly used along coastlines facing unpacified territory. Although speculative, it is conceivable that this omission is due to outpost garrisons being judged too vulnerable to operate safely there. If so, this could also have implications for the security of supply shipping, making a switch from sea lanes to the road network desirable. An increased reliance on maritime supply via the Nith in the Antonine period could also explain the shift from the Flavian fort at Dalswinton to its Antonine successor at Carzield. Although the former was well placed to bolt into an overland communications route connecting Annandale and Nithsdale via Murder Loch, Carzield was dislocated 5km to the south. This placed it on the banks of the Nith, 4km north of the modern town of Dumfries. Today, the Nith is navigable as far north as Kingholm, just shy of Dumfries, but perhaps shallow-bottomed craft could penetrate further inland during the Roman period. This would also help explain the presence of two roads: while Annandale provided the most direct route for overland traffic, Nithsdale catered for supplies arriving by sea.

Nithsdale was also the setting for two of the finest instances of second-century fortlets capitalising on the potential of the topography achieved anywhere in the Roman Empire. These installations, at Barburgh Mill and Durisdeer, acted as locks on natural passageways granting access to middle Nithsdale (Fig. 15; Fig. 25). The most southerly of the pair, Barburgh Mill, had an internal area of c. 841m², and lay between the forts at Carzield and Drumlanrig (Fig. 27). This fortlet controlled the narrow Auldgirith Gap, where the Keir and Lowther Hills encroach boldly on the course of the Nith. North of the gap the hills draw back once more, creating an undulating arena, some



27 Barburgh Mill fortlet under excavation.

Credit: D. J. Breeze

of it suitable for arable agriculture, hemmed in by a formidable ring of hills. Within this rolling lowland, the highway forks at Carronbridge, with one spur presumably servicing the fort at Drumlanrig, while the through road strikes north for the Kirkburn pass and upper Clydesdale. Durisdeer fortlet lies in the mouth of the pass, enclosing 586m² of a spur projecting from Penbane Hill (Fig. 28). Although the outpost commanded a view south into Nithsdale, the course of the road northwards is lost from view almost immediately. A third fortlet further up the Nith valley would complete a coherent control strategy supervising the principal routes into the middle Nithsdale farmland. Although two possible candidates have been advanced, at Sanquhar and Bankhead (Clarke and Wilson 1958–1959; Maxwell and Wilson 1987, 22), neither is wholly convincing. No such ambivalence, however, can be accorded to the influence that the terrain clearly exerted over the outpost positions.

Us and Them?

Carronbridge presents an opportunity to examine the impact of the human geography on outpost use. Excavation there revealed an indigenous settlement on an area of gravel terrace overlooking the confluence of the Nith and Carron, just south of the fork in the Roman road (Johnston 1994). This settlement lay adjacent to the road and within 25m of a temporary camp, indicating that the military was prepared to tolerate a key junction and river crossing being occupied by a local farmstead. Given that an absence of local antipathy ought

to eliminate the need for fortlets altogether – after all, comparable terrain in Wales and the Pennines did not necessitate this density of outposts – this suggests that the military adopted a nuanced relationship with the local population.

Radiocarbon dates from Carronbridge suggest that the farmstead developed over 200–650 years and remained occupied until at least the mid to late second century, making it ‘virtually certain’ that the settlement ‘spanned the main periods of Roman involvement in south-west Scotland’ (Johnston 1994, 287). The recovery of a first-century brooch, and a first- or second-century glass armlet fragment and melon bead from the farmstead indicates that interaction between occupier and occupied extended to the selective acquisition of desirable personal ornaments. Recent research has stressed that such modest assemblages should not be dismissed as ‘baubles for the natives’. Instead, sustained interest in specific sorts of merchandise implies a discerning clientele, which the Romans actively exploited for political advantage (Ingemark 2014, 235–237; Hunter 2015). It is unclear whether any of the artefacts from Carronbridge can be assigned to the Antonine period, but they are suggestive of mutually beneficial relations between its inhabitants and the army. On this basis, there was no simple polarisation of ‘us’ and ‘them’ in Antonine Nithsdale. While the need for outposts implies friction with some local groups, the continued vitality of Carronbridge and potential use of gifts suggests an attempt to keep elements of the population on the army’s side. This distinction may relate in some way to the competing interests of the pastoralists working the uplands and the arable farmers living in the valley. Attempts to regulate transhumance have been discerned on the fringes of Roman territory elsewhere (Whittaker 1994, 81–86; Elton 1996, 64), and although it has been stressed that arable and pastoral groups tend to develop symbiotic relationships, violence can play a part in this. Consequently, even if the army was primarily motivated by extracting an agricultural surplus, the Nithsdale garrisons may have enhanced security for official convoys and arable farmers alike.

Settled groups are generally far easier to control than nomadic peoples who transport their livelihoods with them. An illustration of this may exist 8km east of the Annan at Burnswark, where a former hillfort is held in a vice-like grip by two Roman camps. Their construction is usually dated well into the Antonine period, but study of the artefacts from the site suggests an earlier date, perhaps during the Hadrianic period or the initial Antonine advance (Reid 2016, 26). The jury remains out on whether the military works represent a violent confrontation, or simply that Roman training exercises were conducted there. Even so, the argument that the archaeology points to a military assault on a local population centre is gaining momentum (Campbell 2003; Keppie 2009; Reid 2016, 26). Recent research indicates that slingers, archers, and artillery in the camps suppressed the defenders while infantry stormed the former hillfort gates (Reid 2016, 23). If a bloody episode had played out at Burnswark in the recent past, it would surely have coloured relations between the army and the local



28 This panoramic view of Durisdeer shows how the fortlet (bottom left) dominated the southern mouth of the Kirkburn pass, with Annadale beyond.

Credit: Rev. J. Repath

population in the wider region. The events at Burnswark would also vindicate a Roman policy of tolerating existing settlements – so long as the occupants remained subservient – as it seemingly testifies to the ease with which such sedentary groups could be subjected to military reprisals.

Defences

If a set-piece assault marked the upper limit of Roman attempts to awe the inhabitants of southern Scotland, then the scale of fortlet defences would lie near the other end of the scale. Nevertheless, effort was expended on equipping the Scottish fortlets in both the south-west and along Dere Street with unusually elaborate defences. Multiple ditches were commonly cut around these fortlets, with Chew Green, just 350m shy of the modern Anglo-Scottish border, boasting an impressive set of triple ditches (Fig. 24). Where only single

28 (*cont.*)

ditches were provided, they were often substantial, with that at Barburgh Mill measuring 4.5 – 6.7m wide by 2.2m deep (Breeze 1974, 132). Such dimensions easily exceed those typically displayed by fortlet ditches in Wales, of which the 2.4m wide and 0.9m deep example at Llanfair Caereinion is reasonably representative (Putnam 1964, 23). Durisdeer is the most visually impressive turf fortlet surviving in Britain, a status it owes to its builders' masterful manipulation of the valley topography. The installation crowns a prominent knoll, which rises out of a spur projecting into the pass (Fig. 28). While the fortlet interior lay on the levelled-off summit, the north and south lengths of ditch were sunk into the base of the knoll. Cutting back the living rock between these elements added more than 3m to the rampart height, creating a far more visually impressive fortification.

Antonine forts often display more substantial defences than those of other periods (Breeze 2002b), but this cannot be invoked as the sole explanation for

Antonine fortlet designs in Scotland. The remote Welsh fortlet at Pen y Crocbren also appears to be an Antonine foundation, but currently constitutes a unique example of a freestanding British fortlet that was not equipped with a defensive ditch (see Fig. 15; Fig. 17). The excavator attributed this omission to bedrock directly below ground surface (Putnam 1961, 35), a very different reaction to that elicited by comparable substrata at Durisdeer. Indeed, comparing the Welsh and Scottish fortlet defences reveals that the former are consistently slighter. The simplest explanation for this is that it reflects a palpable sense that the risk of an assault on a fortlet was considered higher in Scotland.

Emphasising fortification strength could be construed as little more than a defensive sleight of hand designed to conceal the essential vulnerability of a fortlet. There are two reasons, though, why the scale of fortlet defences in the Southern Uplands of Scotland should not be viewed as merely an attempt to advertise a military presence within the landscape. The first is that although most of these fortlets boast hardened defences, this end was achieved using multiple techniques. It is redolent of an organic process, with different buildings gangs electing to enhance different defensive elements in different ways, rather than a diktat issued by a central authority. The second reason is that at least three fortlets – Barburgh Mill, Durisdeer, and Redshaw Burn – were augmented with additional lengths of ditch. At Barburgh Mill and Redshaw Burn, these were interpreted as measures to create wagon parks (Breeze 1974, 141; RCAHMS 1978, 135), but all three sets serve to obstruct direct access to the fortlet gate. The end result is reminiscent of the lengths of ditch cut to protect the entrances to temporary camps, but this technique was rarely employed in permanent installations. It is also comparatively discrete, and even mildly inconvenient for anyone regularly using the gateways. Far from providing a visual deterrent, these ditches represent a subtle, but effective, hardening of the defences (Symonds 2011, 24). If these reflect concern about the fortlets being attacked, then we have moved beyond a military presence deterring violent criminality and into the realm of guerrilla warfare. An indigenous aptitude for this would help explain why a conventionally vastly superior Roman occupation force was compelled to withdraw: twice.

CONTROLLING ROADS IN THE FIRST AND SECOND CENTURIES

Combining the documentary and archaeological evidence for the tasks undertaken by road fortlet garrisons reveals them to be the Swiss army knives of outpost systems. As well as the broad requirement to secure a discrete stretch of highway and the traffic upon it, by running patrols and providing escorts, these soldiers could also be expected to gather intelligence about the hinterland, rapidly relay messages, check passes, offer roadside assistance and secure overnight accommodation for official convoys, and, if necessary, mount operations against small hostile groups. Although roadside fortlets display the most variable internal

sizes, it is noticeable that in both Wales and Scotland the smallest examples typically lie along unremarkable upland stretches of road. This could be due to the presence of smaller garrisons with a narrow focus on road security and communications, while those occupying important points in the landscape or more populated regions at lower altitudes had a wider remit in the hinterland of the road. It also appears that rather than road outposts simply providing support infrastructure for accredited traffic, a sense of insecurity – real or perceived – acted as the catalyst for establishing them. The wear and tear experienced by convoys will have remained constant, for instance, but in most cases fortlet garrisons were only present to offer assistance for a decade or two. Likewise, while numerous forts separated by ‘interval’ fortlets were rebuilt in stone and remained occupied, Maiden Castle is the only strong candidate for a fortlet that received this treatment. Presumably the forts still communicated with each other, so the decommissioning of the intervening fortlets cannot be attributed to a cessation of military circulars. Perhaps the rapid transmission of messages was only afforded a premium during the initial phase of pacification, before security had taken root.

The relative distribution of road fortlets in Britain and Germany, coupled with variations in defensive technique, emphasise that threat perception was graded rather than simply binary. Unless a substantial number of first- and second-century outposts await discovery in Germany, it seems evident that opening up freshly conquered territory between the Upper Rhine and Danube simply did not occasion the concern for the integrity of the new road network that occurred in parts of Britain. This divergence is presumably linked to the seemingly low indigenous population levels between the upper reaches of these rivers. In Britain, the handful of fortlets in the Pennines can probably be construed as precautions at key locations within a region that was not afflicted by widespread low-intensity disruption. Modest, undefended *vici* at Castleshaw and Maiden Castle in the Pennines indicate that these small garrisons were seen as an economic opportunity and source of stability, rather than a magnet for armed resistance. Fortlet numbers in Wales imply a greater level of concern, but here too some extramural settlements exist – although these may owe more to nearby extraction industries – and the installation defences were paid little more than lip service. This is in stark contrast to Scotland; especially, but not exclusively, Antonine Scotland. There, fortlet *vici* appear absent, while defences are consistently more impressive than those constructed elsewhere in north-west Europe during this period. It seems probable that these differences reflect a sliding scale of threat perception, ranging from aggressive banditry or raiding through to asymmetric warfare. At one end of this scale, a modest military garrison ought to provide an effective deterrent, but at the other they could become a target. On the strength of the extra ditches cut at some Scottish fortlets, the garrisons were mindful of this risk.

In Britain, the deployment of outposts along the road network is characterised by the development of systems that display increasing levels of ingenuity

and complexity. While this may well have derived from growing experience of employing outposts, it could also reflect the increasingly demanding environments in which they were being deployed. The most influential development was the emergence of the fort-fortlet-fort configuration, possibly in Flavian Wales, which remained the backbone of road outpost systems in Britain into the Antonine period. The flexibility of this format is demonstrated by its use alongside supplementary towers, either as satellite posts or full-blown cordons. It is the two incidences of the latter, along the Gask Ridge and the Stainmore pass, that most resemble conspicuous attempts to try something new. The development of such systems may stem from heightened pressure on road security, but they are suggestive of a desire to implement tighter movement restrictions. As well as raising questions about the efficacy with which the hinterland of key strategic assets was pacified during the initial conquest phase, it suggests that these systems do represent a step towards developing the control mechanisms essential for land frontiers. Elsewhere, road security efforts do not seem to require comparable surveillance capabilities. Even the dense Antonine network in south-west Scotland, as currently understood, contains appreciable blindspots, which were presumably closed using patrols and convoy escorts.

If outposts do serve as a proxy for the stability of a region, then it is instructive to consider how the distribution of road fortlets and towers evolved over the course of the first and second centuries (see Fig. 54 in Chapter 9). In Continental Europe, numbers remained modest, with isolated outposts, or modest chains coinciding with the Augustan advance into new territory, the Flavian annexation of land beyond the Upper Rhine and Danube, and the late first-century tightening of control over the eastern Wetterau in the run up to establishing a formal frontier. In Britain, the first road fortlets appear in the south-west peninsula in the decades after the mid-first century AD. These were probably decommissioned in the AD 70s or 80s, by which time an intricate fortlet network had emerged in Wales. By the early to mid 80s, fortlets were appearing in southern Scotland, with tendrils stretching south-west towards Stranraer and north-east to skirt the Highland fringe. After c. 87 these disappear, and the next fortlets to be founded lie far to the south, supervising Pennine passes. In the years after Hadrian's Wall was established, many of the surviving road fortlets seem to be decommissioned. They reappear in large numbers in southern Scotland during the Antonine period, but this time there is no attempt to bind the far south-west into the road network. Instead the focus is on controlling the supply lines north. Only holding essential infrastructure could indicate a shortage of manpower or even that the campaign was widely recognised by participants as an unsustainable political expediency. Once the Scottish outposts were abandoned, the only known road fortlet likely to have remained in operation is Maiden Castle, overseeing the crucial Pennine pass linking the west of Hadrian's Wall to the legionary fortress at York.

PART 2

BORDER CONTROL

The raw statistics of Rome's drive for border security remain impressive: the combined length of the second-century frontiers stretches for over 7,500 km through twenty modern countries. Grouping them in this way can, however, promote a false sense of homogeneity. Rather than springing fully formed from a single imperial edict, each of these frontier systems is different (Breeze 2011, 3). In some cases, the source of this diversity lies in the fundamental geography of the frontier zones. It is, for instance, hardly surprising that border works along the Rhine and Danube employed different techniques than those controlling desert oases or traversing tracts of temperate forest. In other cases, critical elements of new frontier systems were determined by quirks in pre-existing military deployment patterns. A third factor is arguably the hardest to reconstruct today, but may well have been decisive during the Roman period: the numbers and attitude of the indigenous population. The fundamental question taxing modern frontier specialists is whether, once these variables have been filtered out, Rome's border systems essentially used different means to achieve the same ends.

Over a century ago, Mommsen raised the issue of why Hadrian's Wall was so much more substantial than the German *limites* (Mommsen 1968, 165, 195). It is a question that still awaits a definitive answer. Some, like Mommsen, link the varying scale of the frontier fabric to different intensities of threat (for instance Bidwell 2008). For others, the frontiers represent a cohesive whole, to the extent that it has been argued 'the very commonality of Roman frontiers demands that they are treated as a single monument' (Breeze et al. 2011, 46). The great artificial land frontiers in north-west Europe lie at the heart of this debate: Hadrian's Wall, the Antonine Wall and the Upper German and Raetian *limites*. Despite overt differences in style between them, the tradition of a broad similarity remains strong. This is well illustrated by the inference that a wall-walk was not needed on Hadrian's Wall or the Antonine Wall, because such a feature could not have existed on the Hadrianic timber palisade demarcating the Upper German *limes* (Breeze 2014a, 113). The following discussion of fortlet and tower use will be anchored in a detailed account of these borders, in order to assess how similar they truly were and question what they sought to achieve.

CHAPTER FOUR

HADRIAN'S WALL

The monumental scale of Hadrian's Wall has placed it at the forefront of debate about whether Rome's frontiers imposed uniform restrictions on cross-border movement. Specialists interrogating the purpose of Hadrian's Wall can be broadly divided into two camps: those who see it as a product of a consistent pan-Roman-World strategy, and those who judge its fabric to be evidently excessive in comparison to its peers. These two viewpoints have generated competing visions of the frontier, which can be crudely characterised as amounting to the difference between a defensible military stop-line designed to repulse a barbarian invasion, and a bureaucratic barrier concerned with regulating the peaceful movement of people. According to this latter school of thought, the scale of Hadrian's Wall tells us more about the ego of its progenitor, the eponymous emperor, than the nature of any threat. The Romans themselves were consistently coy about the scope of their borders, and the only contemporary allusion to the purpose of Hadrian's Wall is found in the fourth-century *Historia Augusta*. It discloses that Hadrian 'was the first to build a wall, 80 miles long, to separate [*divideret*] the Romans from the barbarians' (*Hadrian* 11, 2). A model of brevity, what precisely is meant in this context by the terms 'Roman', 'barbarian', and, especially, 'separate' remains contested.

Establishing the intention behind and impact of Hadrian's Wall requires consideration of not only the second-century military infrastructure, but also the local population, the wider landscape context, and a more expansive

chronological span. After all, the Wall arose from a combination of political and military circumstances that were peculiar to Britain, and which presumably informed the nature of the resulting frontier system. Furthermore, once work commenced on constructing the border fabric it must have begun to influence the subsequent development of the region. The imposition of a barrier that divided populated and previously open country, coupled with a surge in military personnel, would have triggered consequences both expected and unexpected. As the situation evolved, so too Hadrian's Wall ought to have been adapted to meet the changed circumstances on the ground. To a degree this is borne out by the archaeological evidence, which suggests that far from operating in a uniform fashion for c. 270 years, Hadrian's Wall was a dynamic system capable of responding to new political and military imperatives from both sides of the border. In order to determine the role of soldiers serving in fortlets – milecastles – and towers – turrets – along Hadrian's Wall, this chapter discusses the events that triggered its erection, the rationale behind its convoluted building programme, and the subsequent development of the frontier.

THE BUILD-UP TO HADRIAN'S WALL

The popular perception of the circumstances leading up to the construction of Hadrian's Wall is that the Roman army advanced to the Tyne–Solway isthmus, or even the modern Anglo-Scottish border, and elected to build a frontier. As we have seen, the true backdrop comprised Rome conceding the military initiative in the north. Rather than Hadrian's Wall being commissioned following a period of successful advance, it emerged after a decade and a half of stasis following a protracted retreat from southern Scotland. The period between the recall of Agricola in AD 83 or 84 and the founding of Hadrian's Wall has been described as 'amongst the most obscure in the history of Roman Britain' (Breeze and Dobson 2000, 12), and it is evident that for much of that span Britain was devoid of opportunities for ancient authors to flatter an emperor's martial prowess. If we take Tacitus and the implications of the glen forts on the Highland fringe at face value, it appears that the mid 80s saw the Roman army preparing to administer the coup de grâce in the aftermath of a decisive victory at Mons Graupius. Regardless of how straightforward occupying the Highlands would have proven in practice, it seems certain that the immediate effect of withdrawing the *II Adiutrix* in c. 87 was to plunge an army preparing for advance into retreat. Tacitus's acerbic aside that 'Britain was conquered and immediately abandoned' (*Historiae* 1, 2), may not be just an expression of filial loyalty to Agricola. It is entirely conceivable that this summed up the attitude of both the elite in Rome, and the soldiers caught up in the ensuing debacle.

It is difficult to reconstruct the fine detail of the retreat from Scotland, but various inferences can be derived from our broad-brush understanding of how events unfolded. The most salient is that although the army immediately appreciated that the redeployment of manpower to the Danube made further advance in Britain untenable, there is no indication that this setback was equated with a need to relinquish Scotland entirely. Instead, all known installations north of the Tweed appear to have been evacuated in an orderly fashion, and the fort at Newstead became the anchor of a new outer line (Bidwell and Hodgson 2009, 13). The army conceivably assumed they only needed to hold this territory until the *II Adiutrix* returned and offensive operations could resume. Whatever the intention, this gambit suggests an ambition to retain southern Scotland, which ultimately proved unattainable. Further soldiers were temporarily siphoned away from Britain during Trajan's Dacian wars, but the increasingly shallow manpower pool would presumably only have forced further withdrawal if pressure was actively being applied (Hodgson 2005a, 17). Foreign foes periodically inflicted severe reverses on Roman armies during the first century AD, but in the west such setbacks were typically incurred in ambushes or during the throes of regional insurrection. Defeat in individual actions could result in territory being surrendered, most famously in the aftermath of the AD 9 Varus disaster, but such incidents are of a different character to the spectacle of a Roman occupying force being incrementally rolled back. If the relentless Flavian advance through northern Britain had lent an aura of inevitability to Roman occupation, its immolation surely exposed the limitations of imperial power.

It is conceivable that the consequences of the dramatic decrease in manpower available to the army in Britain were aggravated by the shallow foundations of an advance that had gone too far, too fast. Tentative indications that pockets of territory were left unpacified and some roads remained unmetalled for decades after a region's initial conquest paint a picture in which aggressive expansion trumped the less glamorous work of installing supporting infrastructure. Such matters may have appeared a distraction while the army was enjoying success in the field, although Tacitus's *Agricola* (22; 23) certainly advocates undertaking the nuts and bolts of building a sustainable occupation. The army's actions following its withdrawal by c. 105 to the natural bottleneck of the Tyne–Solway isthmus may be telling. Indications of an attempt to broaden the military presence in the southern hinterland of the isthmus would fit with a new determination to tighten control of a region that had been overrun c. 30 years previously. Several roads in the military zone may have received a hard standing at around this time, while a wide-ranging programme of infrastructure improvements would fit with the earliest datable milestone from Roman Britain, found on the Fosse Way near Thurmaston, being erected in 119 or 120 (see Poulter 1998; Cool and Mason 2008, 96; Bidwell

and Hodgson 2009, 13; Millett 2015, 553; *RIB* 2244). Despite this focus on resolving basic logistical and security concerns, the burgeoning military presence and concomitant pressure on land and resources may well have exacerbated tensions with local communities on the Tyne–Solway isthmus.

Several sources indicate that areas of Britain were in a febrile state during Hadrian's reign. The *Historia Augusta* states that at the time of Hadrian's accession in 117 'the Britons could not be kept under Roman control', while Cornelius Fronto reminded the Emperor Marcus Aurelius that 'when your grandfather Hadrian held imperial power, what great numbers of soldiers were killed by the Jews, what great numbers by the British' (*Hadrian* 5, 2; *Parthian War* 2, 22). Whether these statements allude to a single conflict is unclear, and a case can be made for two phases of hostilities, in c. 117 and c. 123 (Breeze 2003; Hodgson 2009a, 16–17). A gravestone from Vindolanda records that a centurion of the *Cohors I Tungrorum* died 'in the war'. Although the periods when this unit were in residence cover a wide span, the centurion may well be a casualty of early second-century fighting in the north (Birley 1998, 302–303). There is also likely to have been Hadrianic or early Antonine fighting at Burnswark Hill, directly north of the Solway (see p. 87; Reid 2016, 26). The flashpoint for a conflict is unclear, but the precedent set in southern Scotland would surely have encouraged the belief that the army could be compelled to withdraw further south. If so, one impetus for the monumental character of Hadrian's Wall may have been to convey a message to locals and soldiers alike that the military was going to stay. Whether or not Hadrian was the first to develop a formal border zone on the Tyne–Solway isthmus does, though, remain a matter of some controversy.

THE STANEGATE SYSTEM

The Stanegate is the modern name for a Roman highway that can be traced in part from Carlisle in the west to just beyond Corbridge in the east. As the road runs a short distance south of the later line of Hadrian's Wall, the outposts arrayed along the Stanegate in the Trajanic or early Hadrianic period are typically classified as either the components of an early frontier or a highway security system (see Hodgson 2009d; Fig. 29). The highway itself created a lateral trunk road connecting the two major north–south highways flanking the Pennine ridge. The earliest permanent military posts lay along this line, with the fort at Carlisle seemingly founded in AD 72/73, while that at Red House, near Corbridge, was erected later that decade, with Corbridge superseding it in c. 86. Forts were also arrayed along the course of the Stanegate at around this time. This general pattern, with installations constructed on the north–south highways, followed by garrisons along arterial east–west routes, is not materially different from that along the trans-Pennine highways. The point



29 The installations arranged along the Stanegate road in the years leading up to the emergence of a mural frontier (above) and Hadrian's Wall as completed following the fort decision (below).

Courtesy of David Breeze

of departure is often believed to be when outposts were constructed along the Stanegate in the early second century, although as we have seen these also occur at some Pennine passes. As the Stanegate outposts were probably roughly contemporary with the c. 105 withdrawal from Scotland, these two developments have been linked. Although it would certainly be prudent for this redeployment to occasion a re-evaluation of the configuration of military assets along the Stanegate, the question of whether this highway was transformed into a formal border system ultimately hinges on whether the new outposts were primarily designed to safeguard traffic or control north–south movement.

Various assessments of the potential distribution of sites along a hypothetical Stanegate frontier have been made, but the most influential predicted a semi-regular cordon of forts alternating with fortlets, interspersed with a tower screen (Birley 1961, 134). This model was proposed on the strength of two certain fortlets at Haltwhistle Burn and Throp, a probable third at Castle Hill, Boothby, and a miscellany of towers erected either adjacent to the road or on high ground to the north and south. The enduring failure to locate the missing fortlets that this model demanded eventually led to scepticism about the entire frontier concept. A critical re-evaluation of the evidence highlighted that the towers and fortlets may not be contemporary foundations, that the orientation of the fortlet gates implies the road was their focus, and that it was premature to brand the extant sequence a system, let alone a frontier (Dobson 1986, 3–5). It was also observed that the terrain may have influenced deployment, as the known outposts are focused along the upland stretch of road, with a number overseeing river or stream crossings (Bruce 1978, 5). Subsequent study introduced a fresh complication with the suggestion that the course of the Stanegate road was guided by the position of the fortlets, implying that they predated construction of the metalled highway (Poulter 1998, 52–53). More recently the wheel has turned full circle and the existence of a Stanegate frontier has been reasserted, on the strength that a contemporary and comparable cordon of sites in Germany existed independently of any road, making border control the only feasible explanation for their presence (Hodgson 2000).

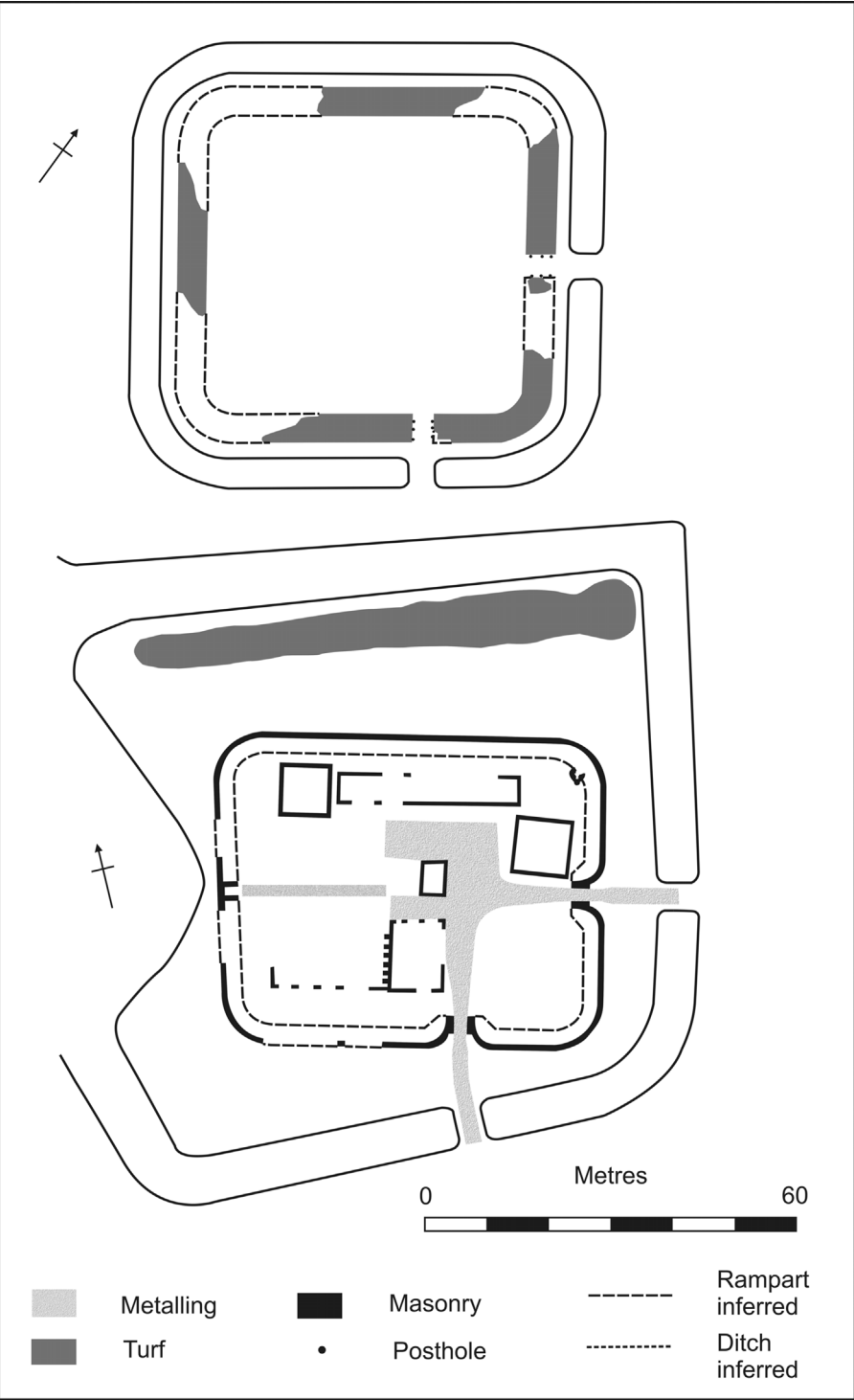
The question of whether a road even existed when the fortlets were founded is by default an existential one for the notion that they provided highway protection. But even if the metalled road does post-date the fortlets, a reasonably robust thoroughfare of some form must have existed from at least the mid AD 80s to service Vindolanda. The question, then, is not whether there was a road, but whether it was metalled when the fortlets were founded. As we have seen, there seem to be numerous examples of road fortlets associated with unmetalled roads in Scotland. On the Stanegate, Castle Hill, Throp, and Haltwhistle Burn all occupy locations appropriate to road fortlets: Castle Hill lies on the western approach to what is essentially an upland pass,

and also overlooks the point where the natural corridor carved out by the Burtholme Beck opens onto the Irthing valley. Throp commands the intersection between the road and the Irthing valley, while Haltwhistle Burn controls the crossing of a steep defile, which leads south to the populous Tyne valley (Fig. 30). The Stanegate fortlets also adhere to the 'interval' fortlet model by subdividing the distance between forts, while the towers would be well suited to serve as satellites and observe otherwise obscured terrain (Fig. 29). The only substantive difference between the Stanegate fortlets and standard road fortlet practice is their proximity to forts. Haltwhistle Burn, for instance, lay 5.6km from the neighbouring forts. This is roughly half the distance typically encountered in Wales and the Pennines, but comparable to that on the Gask Ridge. This could relate to a desire for greater control over north–south movement, but may also reflect the demands of the terrain or greater security concerns along this stretch of highway.

Both Haltwhistle Burn and Throp display a distinctive and seemingly unique design quirk (Fig. 31). Instead of the usual arrangement in fortlets containing two gates, where they occupy opposite ends of the installation, the entrances were inserted along adjacent stretches of rampart. At Haltwhistle Burn, both roads leading into the fortlet ran alongside buildings before



30 The location of the Stanegate fortlets at Throp and Haltwhistle Burn. Throp (A) occupies a commanding position over the point where the Irthing exits a narrow gorge and enters the Tipalt–Irthing gap (B). Haltwhistle Burn fortlet lies on a low plateau adjacent to where the Stanegate road crosses the sharp defile carved out by the watercourse (C). This natural corridor leads south to the Tyne valley (D).



31 The Stanegate fortlets at Throp (top) and Haltwhistle Burn (bottom).
After: Simpson 1913

meeting opposite a small, central room aligned on the east entrance. The excavators suggested that this central structure was inhabited by the commander, which coincides with a belief that buildings occupying similar locations in some Egyptian fortlets served as a day room for the *curator* (Gibson and Simpson 1909, 255; Reddé 2006, 250). Although parallels between one of the roadside buildings within Haltwhistle Burn and a granary were noted, the excavators rejected this possibility (Gibson and Simpson 1909, 252; cf. Breeze and Dobson 2000, 18). Nevertheless, it seems convincing and matches the presence of storage facilities in some larger road fortlets elsewhere, such as Castleshaw (Bidwell and Hodgson 2009, 73). The articulation of the Stanegate fortlet gates makes sense as a way to allow traffic loading, or offloading, goods to circulate easily through the installation. Building a measure to aid traffic flow into the design implies that this was a fundamental concern, suggesting a logistical role for the fortlets, rather than frontier control.

Despite the suitability of the Stanegate fortlets to act as local depots, the idea that the Stanegate was reconfigured into a formal frontier cannot be rejected out of hand. One peculiarity of both Haltwhistle Burn and most of the Stanegate towers is that they were constructed of stone, or in the case of the former, with a masonry rampart revetment, from the beginning. This suggests an expectation of permanence unusual for the period (Dobson 1986, 4–5). Nevertheless, the absence of convincing outposts along the eastern and western stretches of the Stanegate, as well as to the east of Corbridge and west of Carlisle, remains a serious obstacle to the notion that a formal attempt was made to establish a Trajanic frontier across the breadth of the Tyne–Solway isthmus. One explanation for this apparent omission in the east is that the course of the frontier beyond Corbridge swung sharply north-east towards Berwick upon Tweed, following the line of the road now known as the Devil's Causeway (Collingwood and Myres 1936, 127; Hodgson 2012, 212–213). There is, though, currently no sign of installations occurring along the Devil's Causeway in anything like sufficient numbers to balance those on the Stanegate.

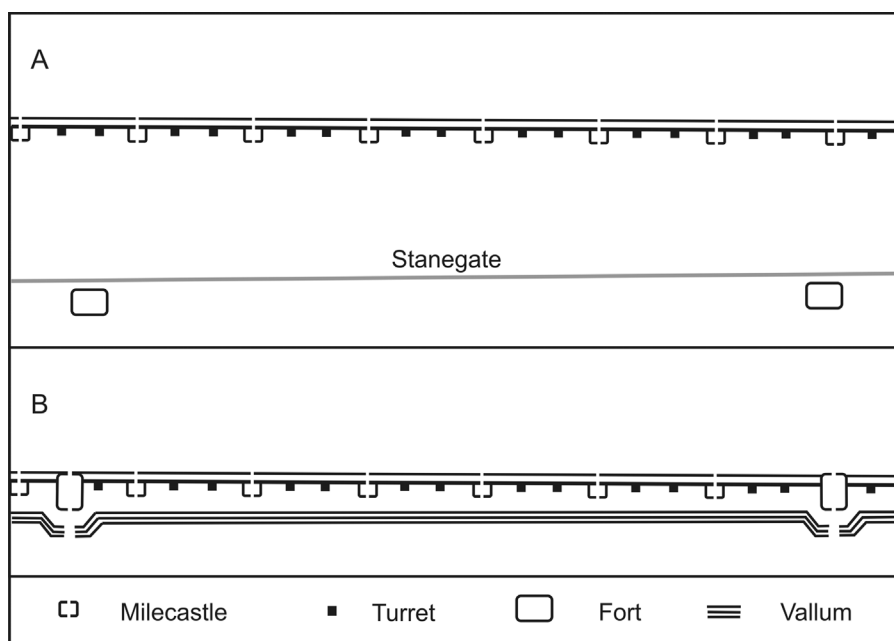
The Stanegate outposts seem best suited to protecting and supporting east–west traffic along part of what was now the northernmost lateral road under direct Roman control. Even so, occupying or observing natural approaches to the Stanegate from the north and south would be an inevitable by-product. On this basis, it would not be surprising if a further fortlet supervised the course of the Stanegate at the intersection with the North Tyne valley. Perhaps the most pertinent question raised by the suitability of the fortlets to provide local logistical depots is ‘who were they serving?’ Neither the fortlet nor tower garrisons should require such a hub, while resupply centres every c. 6km for official convoys would only seem necessary if traffic was sufficiently heavy to occasion serious concerns about the availability of fodder. There are, though,

major advantages to being able to resupply a column on the march at its destination, rather than from its point of departure (Luttwak 2016, 153). Using the Stanegate fortlets in this way would have alleviated provisioning the considerable influx of soldiers mobilised to construct Hadrian's Wall, and, most likely, fight the preceding war.

CONSTRUCTING HADRIAN'S WALL

The vision of Hadrian's Wall that has become ingrained in popular culture is a picture-postcard style panorama of a stone curtain majestically cresting rocky crags. The drama of this setting has been awing visitors for centuries, and the antiquary William Camden's boast that 'verily I have seene the tract of it over the high pitches and steep descents of hills, wonderfully rising and falling' still resonates some four centuries later (Camden 1610, 793). Despite the appeal of this evocation of the Wall traversing a desolate wilderness, it is misleading for two reasons. The first is that the precipitous crags convey a sense of the Roman frontier simply reinforcing a natural boundary. Although geologically speaking this may be true, indigenous-style farming settlements that were probably occupied at around the time of the Roman conquest do not discriminate between land to the north and south of the crags. Then as now, the northern crest of the Whin Sill forming the outcrops did not cleave a corresponding fissure through the human geography. The second reason why this image of Hadrian's Wall is misleading is that although stretches of Wall curtain do indeed cling to crags, this only amounts to c. 12 Roman miles in the middle of the frontier's 80-mile span. It falls within a length of frontier known by specialists as the 'central sector'. Although this area is an anomaly in terms of the marginality of the terrain and the severity of the topography, it is also the best understood part of Hadrian's Wall.

There are various reasons why the stretches of frontier bisecting the gentler terrain to the east and west of the central sector have been less intensively explored, but perhaps the most important concern access and preservation. Furthest to the east, a substantial swathe of the frontier is buried beneath modern Tyneside and Newcastle. Beyond that, long stretches of the curtain scything through rolling arable farmland between Newcastle and the central sector are sealed beneath the modern B6318 road. West of the Irthing valley lies the Red Rock Fault, so called because the durable limestone and dolerite bedrock to the east gives way to a friable red sandstone. This stone has deteriorated over the passing centuries, severely degrading buried masonry. Despite the challenges impeding study of the east and west sectors, important details were gleaned both during pioneering investigations in the first half of the twentieth century, and more recently through rescue and developer-funded excavations. A key early discovery was that in general terms the frontier



32 The initial concept for Hadrian's Wall was a cordon of fortlets and towers, with the forts lying to the south. By the time the frontier was complete, a series of forts had been added, while an enigmatic earthwork known as the Vallum ran to the south of the border works.

After: Breeze and Dobson 2000

adopted a standardised template governing the distribution of installations along it (Fig. 32). The only notable possible exception to this broad uniformity is a sequence of obstacles on the berm between the Wall curtain and ditch. Emplacements are believed to have held timbers with sharpened branches, creating the Roman equivalent of a barbed-wire entanglement, but to-date they have only been detected at sites in the vicinity of Newcastle (Bidwell 2005).

Despite this standardised blueprint, the works were not executed in identical fabric. East of the River Irthing, in the central and eastern sectors, masonry was employed for the Wall curtain and its installations. West of the Irthing, only the Wall turrets were originally built of stone, with the remainder constructed of turf and timber. Numerous explanations for this have been advanced over the years. One popular premise is that a parlous military situation in the west made rapid construction in turf and timber particularly appealing (Graafstal 2012, 136–138). Two alternatives hinge on the varying availability of raw materials, including the difficulty of securing sufficient limestone to create lime mortar west of the Red Rock Fault. A growing appreciation that mortar was only used sparingly in the original Hadrianic curtain, coupled with the later rebuilding of the Turf Wall in stone casts doubt on this explanation. The

core concept, though, has been neatly inverted by the observation that turf and timber rather than stone was the Roman army's building medium of choice in Britain at this time, and that the real problem could be a lack of suitable turf in the rocky central sector and intensively farmed east (Breeze 2006, 59). Whether such superstructure would have been equal to the inclines scaled by the Stone Wall in the central sector is questionable, but the split between turf and stone seemingly represents an early incidence of local factors forcing variation on a frontier concept that prized uniformity.

The basic format of Hadrian's Wall remained the same regardless of whether it was raised in turf or stone. Indeed, the regimented frontier blueprint could be construed as a calculated attempt to eliminate opportunities for local refinement, a scenario that has been memorably likened to the old military adage 'you are not paid to think' (Woolliscroft 1989, 7). Disentangling the order in which the constituent parts of Hadrian's Wall were installed was a major research objective in the late-nineteenth and twentieth centuries, when excavations revealed that there were really two Hadrianic concepts for Hadrian's Wall (Birley 1961, 269–270; Breeze 2014a). The change in plan occurred before construction of the original version was complete, and is referred to as the 'fort decision' (Fig. 32). As the term indicates, the most striking feature of this fundamental reimagining of the frontier was the addition of a series of forts. Although only the post-fort-decision version of Hadrian's Wall entered full service, in order to appreciate the shifting goalposts of Roman frontier policy it is essential to assess both the capabilities of the original concept and how this informed the way the army sought to bring it into operation. Reconstructing the construction schedule is facilitated by a reduction in the width of the Stone Wall from a Broad gauge of c. 2.9m, to a Narrow one of c. 2.3m, which was approximately contemporary with the fort decision. This difference in width allows us to isolate the elements that were erected first, which indicates that the construction programme was guided by a coherent set of priorities (Symonds 2005; Graafstal 2012).

The Original Concept

The original frontier concept seems to be predicated on two core tenets: that the manned installations along the Wall curtain would only comprise a regular cordon of milecastles and turrets, and that the principal military might would be stationed in the forts that already existed along the Stanegate road and the main north-south highways (Birley 1961, 270). An initial belief that the line of control did not need to coincide directly with the forts holding the bulk of the manpower follows the general principle adhered to by the Gask, Exmoor, and Danube cordons. Ultimately both these principles were overturned by the fort decision, but they had already shaped the overall frontier design to such a

degree that their influence resonated throughout the operational lifespan of Hadrian's Wall. The desire to draw on the existing pool of manpower along the Stanegate road emphasises that despite the effort expended on constructing Hadrian's Wall, it was not perceived as an opportunity to draw a line in the sand and commission a frontier *de novo*. Instead, it was simply grafted onto a pre-existing system (Breeze and Dobson 2000, 26–28). The practical implications of this arrangement were far-reaching. Its most pervasive legacy concerned the course of the Wall curtain, which seemingly prioritised a visual link to the south – towards the Stanegate – at the expense of capitalising on the strongest view north (Poulter 2009, 79–81). It has been pointed out, though, that this difference was not as marked from turret height (Foglia 2014, 41). Even so, the implication that the small garrisons dispersed along the Wall curtain were intended to signal to the forts to the south is reinforced by subtle variations in spacing between milecastles and turrets in the central sector, which aided establishing visual links with the Stanegate installations (Woolliscroft 1989, 9). Although adding forts to the Wall curtain obviated the need for any southerly signalling network, there are few examples of the course of the Wall or the siting of installations along it being adjusted to reflect these changed circumstances.

How the milecastle and turret garrisons were supported to the east and west of the Stanegate's known course remains unclear. Some military infrastructure existed in these areas, although many of the details of a postulated 'western Stanegate' beyond Carlisle remain deeply problematic (see Jones 1976), and few of its proposed installations truly resemble military sites. Nevertheless, a pre-Hadrianic fort did lie to the rear of the Wall at Kirkbride. On the other side of the country, east of Corbridge, an undated fort is known south of the Tyne at Washingwells (McCord and Jobey 1971, 120). The stark contrast between these isolated forts and the Stanegate sites has led to a conviction that a greater concentration of manpower must have been planned in these areas, possibly even on the line of the Wall (See Crow 2004, 126–129). Yet the strength of the Stanegate line is potentially misleading. Fewer military units were stationed in the wider hinterland to the south of the central sector, as the Pennine hills compressed the forts into a narrow corridor. To the east and west, however, forts were stacked like rungs on a ladder up the main north–south highways. This created a much larger potential reservoir of soldiers, but at a greater distance. An additional objection is that the forts at Kirkbride and Washingwells could not have provided enough soldiers to garrison sufficient milecastles and turrets. Elsewhere, though, fortlets could be manned by soldiers drawn from units based tens or even hundreds of kilometres distant. There is no reason why this approach could not have been replicated along Hadrian's Wall.

As observed in Chapter 1, the regular sequence of milecastles and turrets forming the backbone of Hadrian's Wall constitutes by far the most famous

incidence of outpost use by the Roman army. Our familiarity with the conceit of positioning installations according to a preconceived spacing system can blind us to the radical innovation this represented. If one word was needed to sum up the various Roman provincial armies' approach to establishing outposts prior to the planning of Hadrian's Wall, then 'flexibility' would be an apt choice. This was manifest in the freedom both to tailor the basic outpost design to local context, and to position it in the most advantageous setting relative to the physical and – presumably – human geography. Admittedly there was a certain predictability to fortlets being founded at approximate midpoints between forts, but even along nondescript stretches of road attempts to exploit the optimal setting are evident. Hadrian's Wall took the opposite approach. There, the outposts were ordered according to a spacing system that positioned milecastles at intervals of one Roman mile, with two turrets subdividing the intervening distance. The result was a manned installation approximately every 495m. This is a little over half the shortest distance between outposts known on the Gask Ridge, meaning that Hadrian's Wall created a more close-set outpost cordon than had previously been seen in Britain. In 1930, the milecastles were numbered from east to west, while the pair of turrets to the west of each milecastle were designated with the same number and distinguished by an 'a' or 'b' (Collingwood 1930). The ensuing group of a milecastle and the two turrets to its west is termed a 'Wall mile', resulting in the regular outpost cordon bequeathing the modern conceptual blocks by which the frontier is studied.

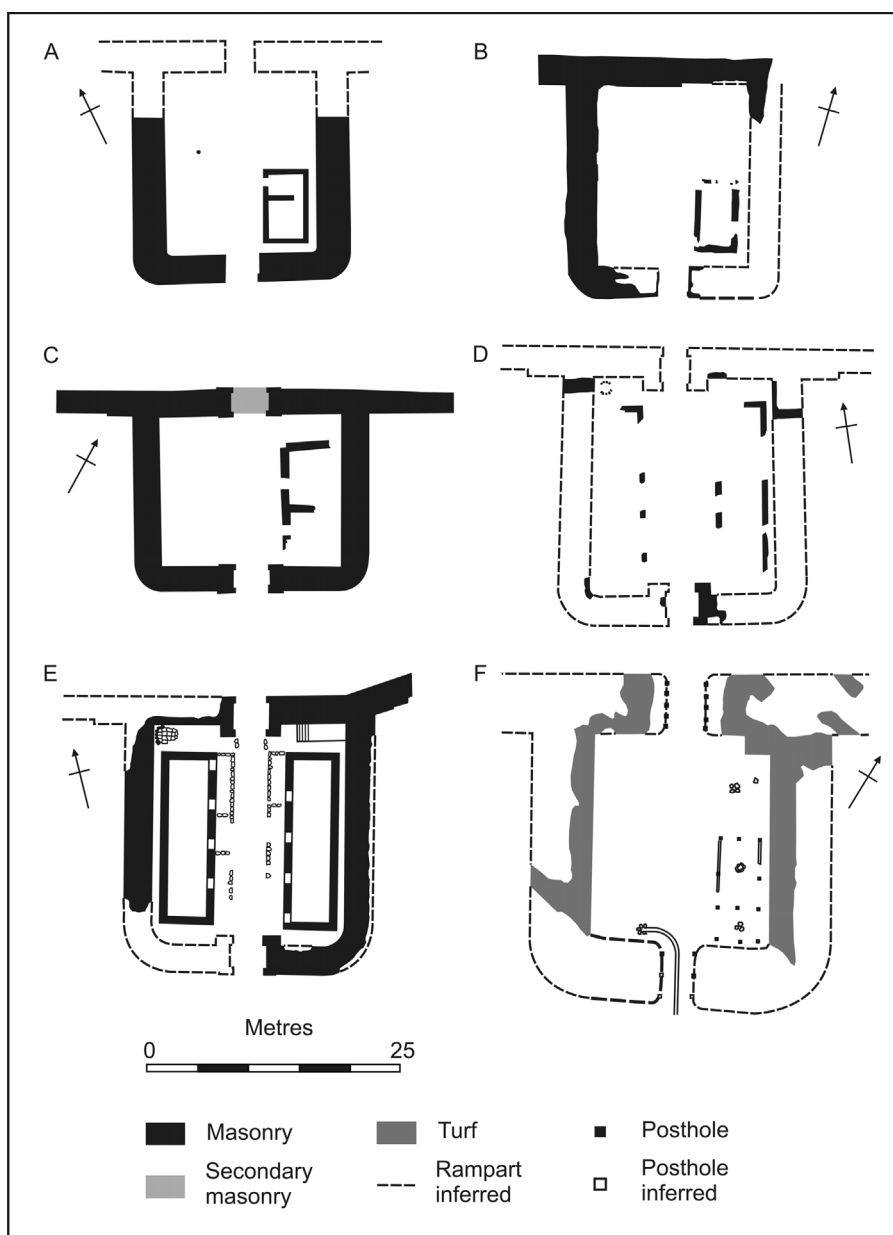
Inevitably, imposing a regular sequence on irregular ground threw up anomalies. The most severe of these – such as when a measured position lay in a watercourse or on a split-level – were sidestepped by subtly adjusting the distance between neighbouring outposts and therefore the overall length of Wall miles. As has been noted, in the central sector signalling concerns also seem to have dislocated installations from their measured position (Woolliscroft 1989, 9). One side effect of this nuancing of the spacing formula is that the Wall 'miles' do not have an identical length and so are categorised as either 'long' or 'short' depending on whether they are greater or lesser than the target distance of 1479m, or 1 Roman mile. It is worth noting that these measurements are based on those given by Collingwood in 1930, which appear to be distances as seen on a map. Despite this demonstration that the regular sequence was not regurgitated blindly, the degree of flexibility permissible remained strictly limited, and the greatest certain difference between a measured and an actual position is 210m. As a result, the concept is most appropriate to the long, straight alignments and comparatively gentle terrain encountered in the east and west sectors. The collision between the regular spacing system and the irregular central sector crags is characterised by a failure to capitalise on the strongest terrain. Even though the milecastles lie on average 64m from their measured positions, multiple outposts still occupy obviously inferior

positions (Woolliscroft 1989, 7). This stubborn determination to work against the tenor of the landscape runs completely counter to the first-century policy of siting outposts in order to maximise the impact and utility of small garrisons.

The other weapon in the army's arsenal when it came to ensuring that outposts were as efficient as possible – namely bespoke installation designs – was spiked by the imposition of generic milecastle and turret templates (Fig. 33). Although the legions constructing the Wall adopted subtly different blueprints, and no two outposts are identical, the level of standardisation displayed by the milecastles was unprecedented. In plan these consisted of small, rectangular enclosures that were attached to the running barrier and have an average internal area of 292m² on the Stone Wall. These dimensions fall towards the lower end of the range exhibited by fortlets, and the milecastles' stunted size may well be a concession to their enforced proximity. The Stone Wall turrets were recessed into the border curtain, while the most obvious variation in their plan is whether the entrance lay at the south-east or south-west corner. Nothing is known about turret height and little regarding whether the upper floor was open or roofed. A group of souvenir skillets from Hadrian's Wall depict what appear to be stylised open-topped and crenellated turrets, but roofing materials have been discovered at a handful of sites (Cowen and Richmond 1935, 328; Breeze 2006, 71). It is worth noting that the only reason to assume that the turrets had identical heights and upper furniture is the general uniformity that the broader frontier design reveals in.

One conspicuous element of milecastle design has come to monopolise discussion of the purpose of both these fortlets and Hadrian's Wall. Ever since the first example was unearthed at milecastle 42 in 1848 (Clayton 1855, 59) – even though an example had previously been observed at milecastle 29 (Horsley 1732, 121) – the presence of paired north and south gateways has eclipsed every other aspect of these fortlets. The reason for this is that these portals provided passage through Hadrian's Wall, elevating the milecastle garrisons to the status of the gatekeepers of Roman Britain (Symonds 2013, 66). The only other places where transit is known to have been possible under the original scheme is where the main highways north crossed the curtain at the Portgate in the east, and north of Carlisle in the west. If Hadrian's Wall regulated the peaceful movement of people, then although travellers had to negotiate a wider frontier zone to the north and south, the milecastles served as the nodes where customs duties were levied, searches conducted, and paperwork filled out. Alternatively, if the frontier served as a closed military barrier, then the gates would have been barred to all but official traffic. In essence, then, understanding the role of Hadrian's Wall comes down to establishing who could pass through the milecastle gates.

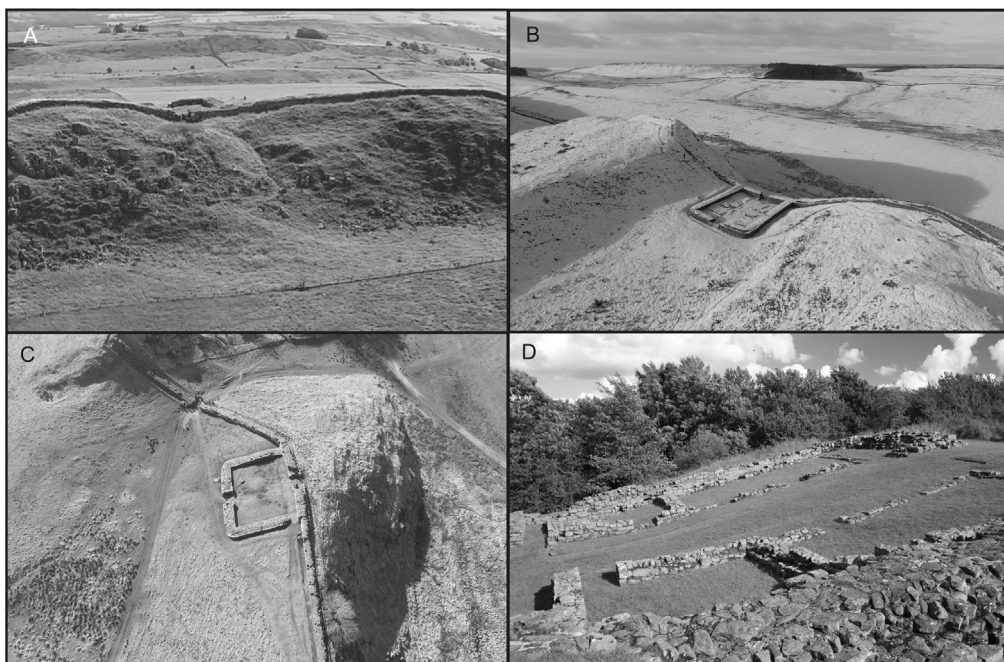
Despite the awkward relationship with the terrain that some milecastles and turrets display (Fig. 34), they were carefully integrated with the wider frontier



33 The fortlets built along Hadrian's Wall were unusually standardised in plan. This shows what the excavators considered to be the first phase of occupation: (A) milecastle 9, (B) milecastle 35, (C) milecastle 37, (D) milecastle 47, (E) milecastle 48, (F) milecastle 50 on the Turf Wall.

After: Birley 1930; Haigh and Savage 1984; Hunter Blair 1934; Simpson et al. 1936; Gibson and Simpson 1911; Simpson et al. 1935

infrastructure. Both installation types were anchored into the Wall curtain, creating a comparatively narrow line of control. Although the presence of frontier gateways within the milecastles required them to be in physical contact with the curtain, this did not apply to the turrets. The most obvious reason to



34 Milecastle locations: (A) milecastle 37 opened onto a steep drop, (B) milecastle 39 was shifted from its measured location to more suitable ground, (C) milecastle 42 was positioned on a steep slope, facing an even steeper slope, despite lying adjacent to a pass on level ground, (D) milecastle 48 lies on a one-in-five slope.

Credit: Newcastle University; J. H. Reid

attach them to the curtain would be the existence of a wall-walk. Numerous strands of circumstantial evidence point to the existence of such a feature, and the only real reason to doubt its presence on Hadrian's Wall is the demonstrable absence of a wall-walk on the German frontiers (Bidwell 2008; Symonds 2009a). Given that the Tyne–Solway isthmus was more densely settled by indigenous groups than almost all of the hinterland of the German *limites*, the additional level of control offered by an elevated sentry walk may have been considered appropriate (Symonds 2015c, 305). If so, it was probably initially planned to stand c. 4.3m above ground level, as elements of milecastles 37 and 48 point to this being the original height of the Wall curtain (Gibson and Simpson 1911, 419–420). The running barrier, milecastles, and turrets, were augmented by a ditch to the north, except where the crags rendered it redundant. Careful survey of this ditch suggests that earth causeways were initially retained opposite the milecastle gates, permitting access north (Welfare 2000).

Conquering a Landscape

It is possible to reconstruct the building schedule of the Stone Wall in some detail, and this suggests that the shortcomings of the spacing system were understood by the army and that the construction programme was

manipulated in order to mitigate them. As the milecastle ramparts were seemingly built to the same width as the curtain, and as both milecastles and turrets were constructed with stubby wing walls to bond them into the running barrier, it is possible to determine whether they were built during the lifespan of the Broad or Narrow Wall. As the latter was introduced after the fort decision, this allows us to see whether the Wall structures pre- or post-date it. In most cases, modular construction was preferred for the milecastles and there are numerous instances of elements such as the north rampart and gateway being constructed to the Broad specifications, with the remainder of the installation being subsequently completed to a narrower width (Symonds 2005, 77–78). Although the majority of the turrets were begun to the Broad Wall standard, whether they were erected to their full height or simply raised a couple of metres to mark their position remains disputed (see Hill and Dobson 1992, 40; Graafstal 2012, 130–131). It has been plausibly suggested, though, that selected turrets and north milecastle gate towers were prioritised for construction in order to establish a surveillance screen along the projected course of Hadrian's Wall (Graafstal 2012, 131).

A number of milecastle ramparts do appear to have been completed to the Broad specifications: milecastles 47 and 48 (see Box 5; Fig. 33) bar the topographical bottleneck between the Irthing and Tipalt valleys; milecastle 27 controls the major natural communications artery created by the North Tyne valley; milecastle 23 overlooks the course of Dere Street; milecastle 14 secures the March Burn; milecastle 10 lies adjacent to the sharp defile of Wallbottle Dene. It is striking that these settings comprise a combination of concealed crossing points and natural and artificial corridors bisecting the frontier zone. They are precisely the locations where standard, freestanding fortlets might be expected if the army was seeking to tighten control over north–south passage across the projected Wall line (Symonds 2005; Wilmott 2009, 198).

At the other end of the scale is milecastle 35, which lay directly south of a 30m vertical drop, making it one of the least-promising locations for infiltration along the Wall. This installation comprises a hotchpotch of walls completed to different widths and standards, suggesting disjointed construction. Even here there may be method to this seeming incoherence, as milecastle 35 reverses the usual pattern by having a Broad south and Narrow north rampart. This would be explicable if the absence of a north gate at this milecastle meant that there was also no north gate tower, resulting in the south gate being prioritised to establish a surveillance capability (Symonds and Breeze 2016, 3). The indications that construction at the site was repeatedly interrupted would fit with construction teams being reassigned to more pressing jobs. Designating milecastles high or low priority suggests that the army appreciated that some installations were more useful than others, and brought them into operation accordingly. Graafstal (2012) has proposed a

Box 5: Milecastle 48

The most influential campaign of excavations at milecastle 48 came about by chance in 1909, when the original objective sought by J.P. Gibson and F.G. Simpson proved elusive. In order to keep their workmen occupied, Gibson and Simpson set them to work on the nearby milecastle, which had been investigated in 1886 with indifferent results. Fresh digging revealed ramparts still standing up to 2.7m high, and traces of a secondary narrowing of the gateway. This piqued the interest of Gibson and Simpson, who refocused their efforts on the milecastle and revealed a remarkable internal layout. For the first time on Hadrian's Wall, the different phases of activity preserved within the milecastle were dated using the associated small finds, a breakthrough that revolutionised frontier studies (see Gibson and Simpson 1911).

Known as the Poltross Burn milecastle, until the frontier outposts were numbered in 1930, the installation controls a key location within the Irthing Gap. Immediately east of the milecastle the ground falls sharply into the Poltross Burn Channel, while the opening where the River Irthing enters the Gap lies almost directly north. Despite these advantages, the plot occupied by the milecastle is an awkward one, with the ground rising by one in five from north to south within its ramparts (Fig. 34). Even so, milecastle 48 was selected as one of a handful of 'priority' milecastles that were fast-tracked for completion early in the frontier construction schedule (Symonds 2005).

The buildings within both milecastle 48 and 47 may well have been erected prior to the fort decision. At milecastle 48, the 395m² interior contained two large barrack blocks set either side of the central road, while an oven lay in the north-west angle and a flight of stairs in the north-east corner. Extrapolating from the surviving steps gives an external height of 4.3m for the Wall curtain, while the barrack blocks are judged appropriate for a garrison thirty-two strong (Gibson and Simpson 1911, 420; Breeze and Dobson 1972, 188–189). It is possible that the soldiers did not have this space to themselves, though, as the site has yielded three harness fittings (Jilek and Breeze 2007, 208). This is an exceptional number for a milecastle and hints at the presence of a mounted element.

priority programme for the Wall more generally, and there are repeated indications that the army took practical measures to tighten control of the frontier line as construction proceeded.

If the army was aware of the weaknesses, or perhaps more accurately inefficiencies, of the core frontier format, it raises the question of why they did not simply revise the scheme wholesale. One possibility is that the design was the brainchild of Emperor Hadrian himself. Hadrian's architectural pretensions are the subject of an anecdote related by Cassius Dio, and the emperor may have developed his own solution to Rome's border problem (*History of Rome* 69, 4; Breeze 2009b). If Hadrian devised a concept that was intellectually satisfying on paper but flawed in practice, it would explain why

the army felt compelled to implement a design that it was not wholly comfortable with, employing only subtle variations to soften its excesses. There would be no reason to extrapolate from this that the outcome is essentially a grandiose vanity project that tells us nothing about the needs of border security in Britain, though. On the contrary, it is appropriate to seek a rational, functional explanation for the milecastle and turret cordon rather than regard it as hollow imperial rhetoric.

A modern focus on the importance of the passageways has seen the milecastles branded 'fortified gateways' (Breeze and Dobson 2000, 33–40), even though the tyranny of the spacing strictures repeatedly situated them in unsuitable locations. In the central sector, numerous milecastle gates open onto precipitous drops or bogs impassable to wheeled vehicles, demonstrating that creating convenient transit points was not the guiding concern. This is not to say that providing north–south access was in itself unimportant. Some milecastle gateway types stood taller than the entrances to nearby forts (Bidwell 2013, 84), and the provision of regular crossing points could easily be an attempt to minimise the obstacle that the Wall presented to Roman military manoeuvring. Nevertheless, the distribution of milecastles in the central sector emphasises that a broadly regular cordon was prioritised above having gates in the most suitable locations (Fig. 34). The premium afforded to maintaining garrisons at fixed distances is neatly illustrated by milecastles 35 and 37. Milecastle 35 was probably never equipped with a north gateway, presumably because it was positioned on the lip of a 30m drop (Woolliscroft 1989, 7; Symonds 2013, 55–56; Fig. 33). The possible collapse and certain blocking of the north portal at milecastle 37 before construction of the internal roadway was complete suggests that it also emerged from the construction process unable to permit north–south passage through the curtain (see Crow 1999, 127; Hill 2013, 69; Fig. 33). Nevertheless, both milecastles were manned in the usual fashion, emphasising that facilitating cross-border transit was not their sole role.

A compelling reason for prioritising the spacing system would be if manned installations approximately every 495m were believed to present the best means of minimising undetected incursions across the curtain Wall, regardless of local context (Symonds 2009a; Symonds 2013, 67). Indeed, the spacing interval may have been determined by the acuity of human eyesight, inspiring an analogy between turrets and surveillance cameras (Foglia 2014, 38), albeit ones with an intercept capability. How many soldiers were needed to operate this system, and what they were watching for, are important questions. Although the size of the milecastle garrisons as originally intended is unknown, the large double barrack blocks discovered within the Broad Wall milecastles 47 and 48 probably precede the fort decision and so offer a guide (Symonds 2005, 73–76; see Box 5; Fig. 33). It has been estimated that these could hold

thirty-two soldiers (Breeze and Dobson 1972, 188–189), which is probably the upper limit of potential garrison size. Multiplying this by the eighty-one milecastles,¹ and assuming that the turret garrisons were rotated from them, delivers a speculative maximum commitment of 2,592 soldiers to man the abortive pre-fort-decision border cordon. If a third of these personnel were on duty at any given time, this would leave approximately eleven soldiers guarding each Wall mile. Although hypothetical, such a number would suggest that the biggest challenges the garrisons were expected to face were low-intensity threats. Numerous authorities have observed that the milecastle and turret cordon would provide an effective anti-raiding shield (e.g. Collingwood 1929, 143; Collins 2012, 73; Graafstal 2012, 161), and this is probably an accurate assessment of the upper level of belligerence their garrisons were expected to handle.

An article that posed the question ‘Who ran Hadrian’s Wall?’ concluded the answer was probably ‘nobody’, or at least no one person (Edwards 2009, 223). This must be considered questionable, though, as issuing different milecastle garrisons with different standing orders concerning who could pass through the frontier, and under what circumstances, would undermine the effectiveness of the entire system. It seems probable, though entirely hypothetical, that an equivalent to the Prefect of the Desert, who oversaw and coordinated the frontier zone in Egypt’s Eastern Desert (Cuvigny 2006b, 295), existed on Britain’s northern frontier.² Whether the individual milecastle garrisons would have discharged their duties in an identical fashion is a different question. The Egyptian *ostraca* reveal that the *praesidia* garrisons had a fondness for financial schemes of dubious legality and an apparent readiness to resort to bribery. Passes to use the desert routes were usually issued by centurions (Cuvigny 2012c, 117–118) rather than the lower ranking *praesidia curatores*, quite possibly to restrict opportunities for graft. Detailing centurions to all eighty-one milecastles seems impractical, and in all probability their commanders were drawn from the lower ranks, as in Egypt. As the ultimate arbiters of who could pass through the Wall curtain, these commanders were in a potentially lucrative position. It is interesting to ponder just how big a sum would induce the milecastle garrisons to turn a blind eye to unsanctioned access by civilians or even Roman soldiers (Woolliscroft 1999; Symonds 2013). Before those manning the milecastles had any opportunity to explore these possibilities, though,

¹ The number may have been less depending on whether the pre-fort-decision version of Hadrian’s Wall had Wallsend or Newcastle as its easterly terminus (see Hill 2001; Bidwell 2003).

² It has been pointed out to me that if such a post on Hadrian’s Wall came with a formal job title, it is strange that it is not mentioned on any of the surviving inscriptions, and so we should instead be thinking of the provincial governor (P. Bidwell pers. comm.).

the post-fort-decision version of Hadrian's Wall eliminated this element of their autonomy.

The Fort Decision

On the eve of the cessation of work prior to the fort decision, Hadrian's Wall was very much a work in progress. To the east, stretches of Broad Wall probably stood to their full height, while some milecastles supervising natural passages or roads crossing the border may have been complete. In the central sector, milecastles 47 and 48 were probably manned (see Box 5), while good progress may well have been made on the Turf Wall. In the central and eastern sectors, work had commenced on the majority of the turrets, and some were sufficiently complete to contain a hearth or scatter of pot sherds. Numerous milecastles, though, were represented by little more than their north rampart and, perhaps, gate tower (Graafstal 2012, 131). Foundations for the curtain had yet to be laid along some westerly crags in the central sector, and work had not started on a handful of milecastles and turrets. In places, the construction hiatus appears to have been sufficient for a depth of sediment to build up over unfinished infrastructure and it has been estimated that in some cases several years elapsed (Crow 1991, 55; 1999, 38; Graafstal 2012, 138). Whether this neglect can be assigned to a single incident is unclear, though, as evidence for another pause has been gleaned from the masonry and stratigraphy within some of the new Wall forts (Wilmott 1997, 100; Hill 2006, 140–144).

The fort decision is traditionally linked to a need to ease military deployment north of the curtain. Graafstal has demonstrated that work on Hadrian's Wall could have commenced in anticipation of the emperor's visit to Britain in AD 122. He proposes that Hadrian was responsible for ordering forts added to the frontier line when he inspected the progress of building operations (Graafstal 2012, 128). Hodgson, meanwhile, has noted that the possibility of a link between a notional second Hadrianic war during the early 120s and the fort decision has not been thoroughly explored (Hodgson 2009a, 16). This possibility merits serious consideration. The observation that 'the very act of building the Wall may have exacerbated feelings among communities on both sides' is ripe with understatement (Graafstal 2012, 161). Traces of agricultural activity have been found buried beneath Roman military works in numerous locations, and it is clear that the eastern stretch of frontier crossed a landscape that was home to a populous agricultural community (Symonds 2009b, 9; Hodgson 2012, 209–210). If relations were already strained in the aftermath of a first Hadrianic war, unilaterally dividing a settled farming landscape can only have stoked resentment. An equally compelling reason for believing that the fort decision could have been forged in a cataclysm is the extent to which it recast the scope of Hadrian's Wall.

The practical implications of the fort decision on the ground are well rehearsed. The most eye-catching alteration was the addition of approximately 9,090 soldiers stationed in a series of forts, which were either physically integrated with the running barrier, or positioned directly to its rear (Fig. 29; Breeze and Dobson 2000, 54). In some cases the forts were positioned astride the Wall curtain, maximising the number of gates opening to the north (Breeze and Dobson 2000, 47). As well as creating a significant increase in workload, building these forts necessitated demolishing existing stretches of curtain, turrets, and milecastles, as well as backfilling the Wall ditch. To the rear of the new forts and Wall curtain, a monumental ditch 6m wide and 3m deep was cut. Flanked by earth mounds, the ensuing obstacle is 36m wide and has been referred to by the misnomer of 'the Vallum' ever since it was described as such by the Venerable Bede in the eighth century AD (Breeze 2006, 84). This earthwork is without ready parallel in the Roman world, but it has been convincingly construed as a measure to deny access to groups on horseback (Woolliscroft 1999, 61). As the only causeways across the Vallum lay opposite the forts, it would also provide a check on who the milecastle garrisons were allowing through the Wall curtain (Woolliscroft 1999, 62). The reduction from the Broad to Narrow gauge is best understood as a measure to speed up completion of the construction work (Breeze and Dobson 2000, 59). As well as transforming the distribution of force along the curtain, the addition of forts probably had a major impact on plans for the milecastle garrisons.

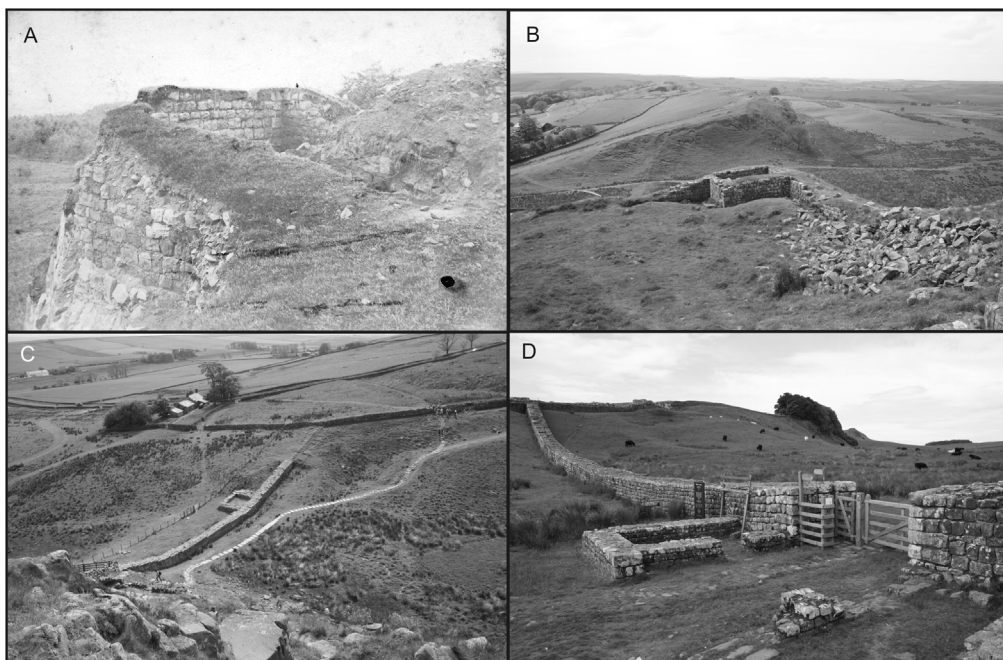
One of the enduring mysteries of Hadrian's Wall is why, apart from the double barrack blocks in milecastles 47 and 48, the majority of these installations seemingly contained large areas of unused space during their primary phase (Fig. 33). As we have seen, elsewhere full use was made of the area within fortlets; after all, there was little point enclosing surplus space within defences. Because many of the extant internal milecastle layouts were elucidated during early excavations some caution is necessary, as it is conceivable that these pioneering investigators missed the traces of earlier, timber buildings. Nevertheless, the small stone barrack blocks in milecastles 9, 35, and 37 are sufficiently similar to the one secure example of a Hadrianic internal layout – from milecastle 50 Turf Wall (so named to distinguish it from the stone version of milecastle 50, which lay on a different site) – to make it credible that they accurately reflect the original arrangement. These diminutive buildings are estimated to be appropriate for a garrison of eight (Breeze and Dobson 1972, 188–189), a figure so small that it is suggestive of a radical change of plan. If the large double barrack blocks in milecastles 47 and 48 were erected before the fort decision, then it seems probable that the small, single barrack blocks reflect the changed circumstances in its aftermath. Surprisingly, the presence or absence of a frontier gateway seemingly had no impact on garrison size. Even

though north–south passage was possible at milecastles 9 and 50 Turf Wall, but not at milecastles 35 and 37, all four fortlets contained barrack blocks of a similar size (Fig. 33). This suggests that whoever passed through these portals required minimal supervision, which must point to them being routinely used for military rather than civilian traffic (Dobson 1986, 12; Hodgson 2005b, 186; Symonds 2013, 68; Hanson 2014, 8–9).

If the projected milecastle detachment size was cut from thirty-two to eight, it would equate to a collapse in total numbers on outpost duty from c. 2,592 to c. 648. The impact of this on the surveillance screen may have been mitigated by the forts usurping part of the milecastles' intended function. It is likely that the milecastles were originally designed to accommodate a contingent of soldiers that was large enough to be self-sustaining by comprising members that were both on and off duty. The soldiers manning the turrets were probably drawn from these garrisons (Dobson 1986, 12; Hanson 2014, 8). Following the fort decision this plan might have been revised so that the milecastles and turrets were occupied by rotating details of on-duty soldiers, who returned to their home forts for rest. If so, the provision of shelter for eight in the milecastles, combined with perhaps two soldiers in each turret, would result in approximately twelve out-posted soldiers per Wall mile. Although entirely speculative, this number is intriguingly close to the eleven on-duty soldiers estimated, albeit equally hypothetically, for the pre-fort-decision deployment. Perhaps the assumed *curatores* would be posted to the milecastles for a longer duration to create an element of continuity. Naturally, if a garrison of eight had to be subdivided into different shifts, it would be tantamount to deployment along the curtain being rebalanced away from dispersed detachments targeting infiltration, and towards concentrated units capable of projecting power outwards. Even if the number of soldiers on outpost duty did remain stable, though, the sudden need for both the Wall forts and the Vallum is redolent of a shift in the prevailing military situation. This would fit with the aftermath of a bout of open warfare, which had its epicentre to the north of the Wall.

Rediscovering Irregularity

Another, subtler shift discernible in the frontier fabric concerns attitudes towards the topography, and the general concept of uniformity (Fig. 35). This is best illustrated by two turrets, numbers 44b and 45b, which were tucked into right-angled corners of the curtain overlooking the flanks of Walltown Crags. Although both turret 45b and its immediate landscape setting were destroyed during nineteenth-century quarrying, 44b reveals the extent to which Narrow Wall turrets could diverge from the Broad Wall model. As well as boasting smaller dimensions than usual, turret 44b lies only 361m from the



35 The position of Narrow Wall and later installations: (A) this photograph of Turret 45b, taken in the 1880s before it was destroyed by quarrying, shows it perched on the edge of a crag, (B) turret 44b overlooks a natural passageway and commands a fine view, (C) the Peel Gap tower occupied a natural corridor that previously lay in a blindspot, (D) the Knag Burn gate was knocked through the Narrow Wall to the north-east of Housesteads fort.

Credit: Tyne and Wear Archives and Museums

neighbouring 44a (Collingwood 1930, 113). This is one of the shortest intervals between installations on the Wall, and it is likely that 44b was offset from its measured location so that it could occupy ‘an extensive outlook’, which ‘completely enfilades and commands the Walltown defile’ (Gibson 1903, 14; Symonds 2013, 58). This degree of flexibility in the face of the landscape is anathematic to the original concept. As most of the turrets elsewhere were already fixed by Broad Wall construction work, there was limited scope for such adjustments elsewhere. There are hints, though, that it did occur.

A number of former Turf Wall milecastles that were rebuilt in stone to the Narrow specifications display increased flexibility in terms of dimensions and shape (Symonds 2013, 59). This is particularly apparent directly east of the Irthing crossing, where a group of former turf milecastles were rebuilt in stone with internal areas of unusual size. The largest of these is milecastle 52, which has an internal area of 644m² – over twice the Stone Wall average. It is also noticeable that while Broad Wall turrets only rarely coincide with changes in direction of the Wall curtain, all of the known Narrow Wall turrets in the central sector occur at such points (Symonds and Breeze 2016). This practical refinement would have improved lines of sight along the Wall curtain. On this

basis, it seems that evidence can be found in the Wall fabric for two subtly different approaches to mitigating the effects of the collision between the regular sequence and the terrain. Although both Broad and Narrow Wall structures were shifted from their measured locations, during the first phase the preference seems to have been to prioritise structures that naturally occurred at important points. Following the advent of the Narrow Wall there was an increased willingness to deviate from both the strictures of the spacing system and the generic installation plans to ensure that the milecastles and turrets were tailored to their local context (Symonds 2013, 67; Symonds and Breeze 2016, 12).

An example of a natural passage being garrisoned as an afterthought occurs at the western end of the Peel Crag. There, an extra tower was built abutting the Narrow Wall, at a point where it was otherwise possible to approach and cross the Wall curtain unobserved by soldiers manning the adjacent turrets (Crow 1991, 53; Symonds 2013, 59; Foglia 2014, 38; Fig. 35). The very need to insert the Peel Gap tower is a fitting indictment of the weaknesses of the spacing system, while its construction reinforces the indications that the frontier template was relaxed towards the end of the building programme to permit more effective use of the terrain. Excavations in Peel Gap recovered two piles of possible slingstones and a ballista bolt from the tower, while an arrowhead was found nearby (Crow 1991, 53). Artillery projectiles and possible slingstones are also known from a handful of other turrets and milecastles (Bidwell 2008, 140). The indications that missile troops in general and slingers in particular were sometimes associated with towers in Britain, the Netherlands, and – if the extra towers along the rampart at Burlafingen are counted – Germany are interesting. Evidence for projectiles, though, has only been found at a minority of Wall outposts (see Allason-Jones 1988), although how many early excavators would have reported the presence of a handful of naturally rounded pebbles is an open question. The skilful use of such missiles could certainly have helped curb unauthorised attempts to slip across the curtain near turrets (Bidwell 2008, 140).

The additional tower in the Peel Gap probably offers a glimpse of the nature of the problem that outpost garrisons faced in the central sector. If necessary, a much larger installation could have been constructed here, so picking the smallest option available would fit with a desire to block attempts to slip across the curtain by small groups (Symonds 2013, 59). Naturally, such small-scale incursions would not pose a threat to the Roman army, but they could bring disruption to settlements south of the Wall. The late addition of the Peel Gap tower to the frontier system makes it a strong contender for a military response to attempts to evade the controls Hadrian's Wall imposed. An extra tower was not considered necessary when either the Broad Wall foundation was laid or the Narrow Wall was raised across the Gap. It was only after the Narrow Wall

was standing above its surviving height that a tower was constructed against it. Whether stationing missile troops within it was another late refinement is hard to say, but both Narrow turrets 44b and 45b seem better situated for surveillance than using slingers, archers, or a ballista to block potential crossing points.

Although the Peel Gap tower is potentially the last Hadrianic outpost to be constructed on the Wall, a further example of the 'Peel Gap mentality' may occur to the east of Housesteads fort. A stretch of Narrow Wall sealing the northern mouth of the Knag Burn gap was demolished so that a passageway flanked by two guard chambers could be inserted (Fig. 35). Although the impetus for this revision may well be related to the neighbouring fort, the addition of a passageway draws attention to the failure of the milecastle system to provide a gate that does not lie on the crags in Wall miles 35, 36, and 37, while milecastles 33 and 34 opened onto a bog. Nineteenth-century clearance of the Knag Burn gate revealed fourth-century coins, and so this portal is normally assumed to be a late feature. It has also been suggested, however, that the north fort gate went out of use in the late second century and was superseded by the Knag Burn passageway (Breeze 2006, 232). As a small structure that both post-dates the Narrow Wall and rectifies a topographical anomaly created by the regular spacing system, the Knag Burn gate offers a parallel to the Peel Gap tower. On this basis, it is conceivable that the gate is a second-century, rather than fourth-century, refinement. If so, the frontier was in effect gradually reverting towards established Roman military norms for outpost use.

THE CUMBRIAN COAST

The western terminus of the Wall curtain lay a short distance west of Bowness-on-Solway. This modest promontory dominating the Solway channel was ultimately employed as a fort platform, but it was probably originally the site of milecastle 80. It is generally accepted that the decision to end the running barrier was determined by the lowest Solway ford lying at Bowness (Collingwood 1929, 143). The cessation of the curtain does not mark the end of the Hadrianic frontier system, however. Instead, an outpost cordon extended to the west and then south, shadowing the coastline for at least 35km. Sometimes termed the 'western extension' of Hadrian's Wall, this stretch of frontier presents an illuminating opportunity to assess how the milecastle and turret chain was tailored to a coastal context.

Although the Cumbrian system eschews the three linear barriers that characterise Hadrian's Wall – namely the curtain, ditch, and Vallum – this presumably acknowledges that the Solway presented a far more substantial obstacle. Despite this concession to the terrain, the regular sequence of outposts,

referred to in this context as milefortlets and towers, continued along the Cumbrian coastline. Given that there was no linear barrier the milefortlets could permit passage though (Hodgson 2005b, 184), such an approach is only really explicable if the proximity of the posts was intended to restrict opportunities for infiltration. Although there are substantial gaps in the system, perhaps attributable to erosion or a failure to even complete the cordon, the known distribution of sites has been taken to imply that the spacing system was even more tightly regimented along the coastline. Rather than adopting the 'long' and 'short' Wall miles employed on the curtain, Richard Bellhouse, the doyenne of the coastal frontier, believed that for most of the cordon's course the maximum spacing variation was 5m. On this basis, he argued that individual installation locations are 'as meaningful as if applied to one stake in a fence' (Bellhouse 1989, 40). Demonstrable deviations from precisely regular intervals do occur, though.

Milefortlet 21 is widely regarded as epitomising the inadequacies of the spacing system, as it occupies an awkward plot on the southern flank of Swarthy Hill, only a short distance from a superior vantage at the summit. Nevertheless, this milefortlet had been shifted 70m from its measured location (Turnbull 1998, 63), raising it out of a marsh and gifting it a sweeping view over the southern arc of Allonby Bay. The existence of at least one, and possibly two further spacing deviations between milefortlets 17 and 23 indicates that long and short 'miles' did occur along the coast (Daniels 1990, 405). Perhaps the clearest example of spacing flexibility occurs immediately adjacent to the curtain terminus. Milefortlet 1 lies 1,676m – well over a Roman mile – from the probable site of milecastle 80 (Potter 1977, 149). Although the land lies softly in the vicinity of milefortlet 1, the installation occupies a shelf of higher ground near the apex of a shallow bay, allowing it to dominate that stretch of coast. Such flexibility aside, though, it is remarkable that the outpost cordon was simply extended along the coastline without a more substantial revision to the format. Few of these installations appear to have been reoccupied after the Hadrianic period, and this short lifespan is an apt indictment of an ideology that was indifferent to the distinct demands of controlling a land and coastal border.

THE PURPOSE OF THE HADRIANIC SYSTEM

How long it took to complete Hadrian's Wall is unknown, but the most easterly section of the Turf Wall appears to have been rebuilt in stone before the emperor died in AD 138. By then, what started life as a surveillance and anti-raiding screen had been adapted by the fort decision to create 'a spring-board for forward, preventive or punitive, action' (Graafstal 2012, 161; Breeze 2014a, 64). This effectively enhanced a capability for what has been termed

'forward defence' (Luttwak 2016, 156), whereby threats were neutralised beyond the border to prevent disruption to Roman territory. Despite this major revision, the milecastle and turret cordon was still completed and indeed refined during the Narrow Wall phase of construction. The combination of a significant new dimension to the capabilities available directly on the Wall line with a heightened desire to ensure that the outposts were set within the landscape to maximum effect testifies to a concerted, if belated, attempt to derive maximum advantage from the frontier works. An ability both to conduct forward defence beyond the border and to minimise low-intensity infiltration across it is carefully catered to by this new, improved frontier concept, implying a truly dual function. The lack of discrimination in garrison size between milecastles with or without north gateways implies that these portals were not routinely used to ease civilian transit. Instead, such access was probably only permitted where the major roads crossed the frontier.

As we have seen, the fort decision was accompanied by significant changes to the fabric of Hadrian's Wall. It is widely accepted that the eventual deployment of the pre-eminent auxiliary unit in Britain, the *ala Petriana*, at Stanwix indicates that the frontier's assault capability was ultimately focused on the highway north into western Scotland. The priority for efforts to supervise the Wall curtain itself has received less attention, but one short stretch of the frontier zone in the central sector is identifiable as a consistent focus of activity and innovation: the gap between the Tipalt Burn and the Irthing (Symonds 2017, 39; Fig. 36). Prior to the establishment of Hadrian's Wall, this stretch was supervised by the fort at Carvoran, and the fortlet at Throp. Further forts and a fortlet shadowed the Irthing as it flowed westwards, while towers were established on both sides of its valley. When work on the mural frontier commenced, the milecastles within the Tipalt-Irthing gap were probably among the first to be completed and manned, and at the very least turrets 48a and 48b are also likely to have been fast-tracked (Hill 1997, 42; Symonds 2005, 76; Graafstal 2012, 150). Construction of the Wall curtain also appears to have been accelerated, while the ditch was unusually substantial (Graafstal 2012, 145–146). Following the fort decision, turrets 44b and 45b – directly east of the eastern lip of this topographical bottleneck – became the most artfully positioned examples known on the Wall. To the west of the gap, where the northern lip of the Irthing valley lies hard to the south of the murus, a fort was established at Birdoswald. It is the milecastles along this strip, numbers 49–54, that appear to have been increased in size when they were rebuilt in stone.

While priority construction within the Tipalt-Irthing gap indicates that it was identified as a critical element of the border zone, the sustained innovation along this stretch of frontier could be a response to an unusual level of pressure. This may have been exacerbated by the decision to run the frontier



36 Looking west over the Tipalt–Irthing gap.

immediately north of the Irthing valley in Wall miles 49–53, which creates a defensive weakness. Even though additional bridges must surely have spanned the Irthing, reinforcement of, retreat by, or even manoeuvring of the Wall garrisons would have been severely impeded by the river. The southern crest of the Irthing valley offered a far stronger and more conventional defensive position, which was exploited by several Stanegate installations. It is probable that the course of Hadrian's Wall reflects a desire to deny access to the natural corridor created by the Irthing valley.

The juxtaposition of the Tipalt Burn and the Irthing makes control of this gap the key to regulating regional movement. While the Irthing leads west to the Eden, Carlisle, and the coastal plain, the Tipalt Burn flows into the South Tyne, which offers passage both east towards the intensively populated lowlands and south into the Pennines (Symonds 2017, 39). Indeed, the Roman road that leads into the heart of these hills and is now known as the Maiden Way intersects with the Tipalt valley just 1.5 km south of the Wall. In essence, the Tipalt–Irthing gap is a natural junction where passages to both sides of the country open and penetration of the Pennines is possible. Rebuilding the original Turf Wall milecastles 49–54 to unusual size at a time when the fort decision seems to have lessened the importance of many milecastles suggests that existing measures along the length of Wall cut off by the Irthing were found wanting. Critically, though, these revisions imply that local disruption was ordinarily on a scale that could be met by fortlet garrisons. There is, then, every sign that the Tipalt–Irthing gap represented the greatest geographical

obstacle to achieving control of north–south movement in the central sector, and that the army understood this and responded accordingly.

One technique to enhance the Wall's effectiveness as a barrier that has yet to be detected in the Tipalt–Irthing gap is the provision of berm obstacles. These are currently only known to occur in the vicinity of Newcastle, although they have also yet to be sought along many stretches of Hadrian's Wall. If berm obstacles do prove to be restricted to the eastern sector, they could represent an attempt to tailor the frontier to the human rather than the physical geography. Although the Tipalt–Irthing gap offers the easiest access to the widest number of destinations south of the Wall, on current knowledge the eastern and western sectors of the frontier brought the greatest harm to indigenous interests. This is because these regions were the most densely populated areas divided by the border. In terms of the raw mathematics of frontier control, if there were more people to control, and by default more people whose livelihoods and lifestyles were harmed by the border, it would be sensible to factor that into the design of the Wall and its construction timetable. Indeed, it is possible to advance a logical overall construction scheme for the frontier, with the most heavily populated east and west sectors being closed first, alongside measures to address particularly sensitive areas like the Tipalt–Irthing gap and the North Tyne valley. Control was then incrementally tightened as construction progressed (Symonds and Breeze 2016, 12).

It could be conjectured that different pressures were exerted on the eastern, central, and western sectors of Hadrian's Wall following the commencement of construction work. In the east, a large, settled farming community needed to be controlled, while in the centre, raiding parties seeking to cross the frontier may well have been the greatest concern. In the west, if the Turf Wall really was motivated by local hostility, it is conceivable that an armed response to the imposition of a frontier was judged possible. The hints of a second Hadrianic war suggest that any such fear may have been well grounded. Within this framework, the role of the milecastle and turret cordon appears to have been essentially constant: to prevent infiltration across the frontier curtain by relatively small groups. Even though the regular spacing system was not the most efficient means of achieving this, there is a good chance that the milecastle and turret garrisons proved highly effective.

Despite the effort expended on the Wall during the Hadrianic period, the impetus for a border on the Tyne–Solway isthmus swiftly dissipated after the emperor's death. His successor Antoninus Pius ordered the army into southern Scotland once more. This advance is traditionally believed to have been accompanied by the removal of the wooden gates in the milecastles and the slighting of the Vallum (see Gillam 1953, 170–172; Birley 1961, 124–125). The landscape divided by Hadrian's Wall lay open once more.

Destabilising the Local Population

Assessing the impact of the frontier on the local population owes a great debt to the seminal work of George Jobey, but the results of developer-funded excavations in the Northumberland coastal plain are increasingly challenging his belief that indigenous settlement prospered under a durable *pax Romana*. Recent exploration of multiple sites on the eastern coastal plain has revealed a consistent picture of a previously stable Iron Age farming society to the north of the Wall collapsing at around the time it was constructed (Hodgson 2012). The most prominent settlements on the coastal plain appear to have been set within substantial rectilinear enclosures around 200 BC. Such homesteads are traditionally seen as the residence of a family, or extended kin group, while the evidence for contemporary and more modest open settlement implies that the occupants of the enclosures enjoyed an elevated status within their community. The longevity of these complexes has also prompted suggestions that their occupants derived kudos from ancestral prestige associated with a founder figure.

Rectilinear enclosures occur on the coastal plain at intervals of approximately 1km, and their occupants seem to have practised a mixed arable and pastoral regime. A pre-Roman population of 10,000–15,000 is considered a strong possibility, with this group capable of fielding a host 3,000–4,000 strong (Hodgson 2012, 208–210). A population density of this magnitude may well have brought the landscape close to its carrying capacity. Reconstructing the demise of this agricultural community is dependent on radiocarbon dates and a few scraps of Roman material culture. Such an assemblage is no basis for certainty, but the picture that is emerging is of a society that disappeared abruptly at the height of its sophistication, most likely during the period from AD 120–140 (Hodgson 2012, 213–215). What is striking about this date is that it implies the community survived intact after the initial Roman conquest and occupation of the region, probably in the late AD 70s. It was only following the commissioning of a mural barrier that we see, in Hodgson's words, 'the end of a densely packed and closely regulated settlement pattern with a highly distinctive architectural tradition, and presumably the collapse of the social network that went with it' (Hodgson 2012, 216). The impetus for this oblivion is unknown, but a connection with the new frontier seems probable.

If the elite derived a sense of legitimacy from ancestral claims to the land, then it is easy to see how the army appropriating it could threaten social cohesion. The healthy representation of horses at one site is interesting given the hints that mounted Britons were a nuisance in the early second century (Hodgson 2012, 208; *TV* II 164). Depopulation of this region might be attributable to reprisals in the aftermath of the putative second Hadrianic war. Alternative possibilities include the arbitrary clearance of a wide strip

north of the Wall by the Roman army, social and economic collapse following severance from the community's southern markets (Hodgson 2012, 218–219), or changes in farming patterns contingent on the Roman need for horses (Breeze 2014b, 55). One further possibility is that routine Roman pacification techniques played a part. Tacitus notes in his account of Ostorius Scapula's campaigning in Britain that 'he prepared to disarm suspect tribes' (*Annals* 12, 31). If this policy had been extended to the groups living on the Northumberland coastal plain in the AD 70s, it is conceivable that half a century later their descendants found themselves on the wrong side of a frontier, without sufficient weapons or training to defend themselves. If, on the other hand, the emptying of this landscape was a deliberate military policy, it may have rebounded on them. Hodgson suggests that roaming pastoralists may have subsequently inherited the territory (Hodgson 2012, 216). Such mobile groups are notoriously hard to regulate.

THE POST-ANTONINE FRONTIER

This subheading spans a period of 250 years; longer if the continuity of occupation at some sites in the post-Roman period is factored in (see Collins 2012). Despite a traditional focus on the Hadrianic period, there is much that can be said about how the frontier evolved over the following centuries, and it is regrettable that there is not more scope to give it the attention it deserves here. A sketch of events, though, provides an outline of the key developments. Preparations to return to Hadrian's Wall appear to have been underway by AD 158, when an inscription that most likely came from the Wall curtain attests to rebuilding work (*RIB* 1389; Hodgson 2009b, 192). It is likely that the withdrawal from the Antonine Wall was executed around AD 160 (Hodgson 2009b, 192), and one of the first steps to reinstate Hadrian's Wall as a viable frontier line must have been to install replacement milecastle gates. This initial reversion to the Hadrianic system was short lived, however, and over the subsequent fifty years the milecastle and turret system appears to have been thoroughly re-evaluated at least twice.

The most substantive changes to the milecastles and turrets in the decades following the return from the Antonine Wall concern the downgrading of the milecastle gateways and demolition of surplus turrets and milecastle gate towers. The first development could be seen as a belated acknowledgement of one of the aftershocks from the fort decision (Hodgson 2005b, 184), while the latter has been characterised as 'probably no more than an adaptation of the structures to meet the real situation' (Breeze and Dobson 2000, 136). The Wall curtain was probably also further narrowed during this period, and it is conceivable that its full height was now considered flexible. A length of this Extra Narrow Wall, featuring a hard white mortar core that is frequently

believed to indicate Severan rebuilding, rises to a level top 3.3m above ground level on the western flank of Highshield Crag (Crow 1991, 56). This is not far shy of the 3.7m noted by the Venerable Bede as the curtain height in the eighth century (*Ecclesiastical History of the English People* 1, 12). It is possible that the short stretch of curtain on Highshield Crag survives to its original height, indicating that by the late second century a lower elevation was considered acceptable on terrain that was already raised by the crags (Crow 1991, 59). The greatest obstacle to varying curtain height on the crags – a need to align with the doorways that presumably led into the turrets from the wall-walk – would have been eliminated by the turret cull.

Considered as a whole, the processes underway in the later second century represent the most substantial revision of the frontier fabric since the fort decision. Ascertaining which turrets were redundant and which fulfilled a valuable function must have involved a case-by-case assessment of the structures. The central sector – arguably the region least suited to the original surveillance concept – was hardest hit by the exercise, with no turrets between 33b and 41b known to have been retained (Breeze and Dobson 2000, 136). Levelling these turrets wholesale seemingly signals the abandonment of the original Hadrianic surveillance system in the central uplands, either because it was redundant, or because it was judged more effective to focus resources on the lowland sectors. It has been noted that the impact of the turret reduction varied, with the surveillance coverage between Great Chesters fort and milecastle 47 only dipping by 9%. That between milecastles 37 and 40 decreased by 34.5% (Foglia 2014, 42), however, and demolishing different numbers of turrets may have adapted discrete lengths of the frontier to local needs. Tellingly, perhaps, both of the Narrow Wall turrets carefully positioned at either end of Walltown Crag survived this assessment. The Peel Gap tower, however, did not, suggesting that the circumstances that led to its insertion had been resolved to the army's satisfaction. No milecastles were certainly eliminated at this time, although milecastle 22, which lay adjacent to the Portgate where Dere Street crossed the Wall is a strong possibility. Other candidates include the Westgate Road milecastle, and perhaps milecastle 31, beside Carrawburgh fort (Symonds 2013, 64–65).

Although the milecastles emerged from the outpost cull relatively unscathed, it is believed that 'in the later 2nd century the role of each milecastle was evaluated individually, according to its geographical and tactical position' (Welfare 2000, 18). In most cases the outcome of this scrutiny was that the gateways were reduced to posterns too narrow to receive wheeled transport, and the earth causeways across the Wall ditch were dug out, effectively isolating the milecastles from the north. This likely reflects curtailed use of the milecastle gates following the return from the Antonine Wall. There are also indications from several milecastles that gate towers were demolished

at or around this time (Symonds 2013, 63–65), possibly because elevated observation platforms were no longer judged necessary, because the reduced gateways did not merit this defensive measure, because of maintenance issues, or a combination of all three factors. But neither the reduction in gate width nor the demolition of the turrets seems to have impaired the importance of the milecastles. On the contrary, the third century appears to bring an increase in garrison size, with several sites apparently receiving a full complement of internal buildings for the first time. Perhaps this relates to a conscious decision to revert to the 'standard' model for manning fortlets, with the resident garrison comprising both on- and off-duty soldiers, or perhaps a changed security situation made it prudent to have larger groups of soldiers spaced out along the curtain. Further third-century developments within the milecastles are difficult to identify, a situation that is not aided by a conspicuous and unexplained dearth of coins minted between AD 180 and 259.

Divisive Diplomacy

The early third century coincides with Emperor Septimius Severus's ill-fated Scottish expedition, which came to a premature end when the emperor died at York in AD 211. Military might was not the only instrument of dominion that Rome sent north of the border, however, and in the long term it may not even have been the most disruptive. Fascinating research into the date, intention, and consequences of denarii hoards that were deposited in Scotland away from known Roman military sites may provide a glimpse of imperial diplomacy in action. Combining what is known of the hoards' chronological range produces a pattern that differs from hoard deposition to the south of Hadrian's Wall, but tallies with similar caches found beyond the frontiers elsewhere in northern Europe. Such a consistent picture implies that the Scottish hoards should not be viewed as an isolated reaction to events that are unique to Britain, but rather as a consequence of wider Roman diplomatic activity (Hunter 2007, 217–218).

This policy of supplying gifts, subsidies, or bribes to powerful figures or groups north of Hadrian's Wall appears to commence in the late second century, and drops off sharply prior to the mid third century (Hunter 2007, 215–217). Although the coinage did not travel north alone, with glassware and pottery also used to advance Rome's interests, the silver coinage has been identified as the most 'socially disruptive' (Hunter 2015, 264). This is because it artificially stimulated an appetite for a precious metal that was not available locally, making meeting local demand entirely dependent on continued Roman patronage. As the denarii seem to have been carefully targeted to empower some groups, and isolate others, any local figures whose powerbase grew dependent on Rome's largesse would have been vulnerable when the

Empire's political priorities shifted and the gifts dried up. In practice this did not just happen once, when the denarii hoards disappear from Scotland as a whole, as these deposits seem to be concentrated in different regions during different periods. This pattern implies that some groups would only have been receiving these commodities for a generation or so, potentially creating repeated episodes of disruption. The impact of this meddling has been linked to major social changes discernible in the archaeological record and the emergence of the Picts in the third century (Hunter 2015, 264). If so, given the Picts' infamous enmity with Rome, these diplomatic gifts may be judged to have seriously backfired. The keen interest it implies in local politics, though, and the targeting of resources in varying regions at varying times, could be seen as the diplomatic equivalent of the military's use of outposts within occupied territory.

Fourth-Century Frontier

Along Hadrian's Wall, the picture becomes fragmented in the fourth century, although it is certain that the milecastles were not upgraded with bastions to reflect advances in defensive technology. There are also tantalising hints of greater localism at the expense of a cohesive frontier-wide concept of outpost use. A rare example of substantial alteration to the basic milecastle fabric comes from numbers 51 and 52, where the south gates were replaced with monumental masonry orthostats in the late third or early fourth century (Simpson and Richmond 1935, 252–256). There is no obvious reason why these two sites should be singled out for this treatment, although it is noticeable that they lie along the exposed stretch of frontier running directly north of the Irthing valley, which received so much special attention.

Elsewhere, the best surviving and published evidence for late internal buildings comes from milecastle 35. The excavators considered the new fourth-century internal buildings to be 'something of a decline' and believed that portions of the rampart no longer stood (Haigh and Savage 1984, 51). Part of the interior was also given over to metalworking, and scrap seems to have been stockpiled at the site for recycling. Metalwork also occurs in appreciable quantities in late levels at milecastle 39 (Jim Crow pers. comm.), raising the possibility that some milecastles found a new role as industrial depots during the twilight of imperial control. Patching tumbled masonry ramparts with turf work and timber in order to keep them serviceable is a Wall fort trope during the late Empire or early post-Roman period (Collins 2012, 85–86). Substantial quantities of timber from turrets 44b and 48b suggest that they may have undergone comparable hybridisation. How many of the milecastles and turrets survived until the traditional end date for Roman Britain in AD 410 is currently impossible to say. Among those that

did, milecastle 35 may not have been unique for potentially appearing 'no longer . . . recognisable' (Haigh and Savage 1984, 51).

INTELLIGENT DESIGN?

There is no denying that Hadrian's Wall embodies a bold vision for frontier control. At its heart lay a revolutionary new approach to achieving close control of movement, namely integrating the fortlets and towers into an idealised spacing system running the length of Hadrian's Wall and down the Cumbrian coast. Although the Gask Ridge could be viewed as a prototype that signposts this general direction of travel, the extent to which the spacing strictures on Hadrian's Wall consistently trumped the potential of the landscape was unprecedented. Utilising standardised templates for the milecastles and turrets further eroded the potential for flexibility. If Hadrian did design the frontier, then he stubbornly pursued an ordered, intellectual solution to border control. The concept that he championed marked an absolute break with preceding fortlet use. Never before had such installations been positioned with such casual disregard for local context. This design was also never implemented in its original state, as the fort decision added a significant new dimension to the frontier. The addition of forts to what was most likely originally intended to be a surveillance and anti-raiding screen enhanced the forward defence capability of the frontier (Graafstal 2012, 161). The sudden need for such an embellishment implies that either the army underestimated the need to intervene north of the Wall, or constructing the frontier materially altered the regional military situation. Either way, by the time Hadrian's Wall became operational, a legacy of compromises and obsolescent elements was already fossilised in its fabric.

The bruising collision between the spacing system and the central sector terrain seems to have occasioned concern from the start, with both spacing dislocations and the fast-tracking of priority installations used to soften its excesses. Following the fort decision, the drive for uniformity appears to have been relaxed – though certainly not abandoned – and the opportunity to implement more varied designs and garrison more advantageous terrain was seized. This initial concession to the value of tailoring outposts to the local physical and human geography could be construed as a first step towards the Hadrian's Wall frontier system reverting to established military norms. It was a journey that continued after the return from the Antonine Wall, when a number of turrets, milecastle gateways, and gate towers became casualties of an efficiency drive, which presumably assessed what was really needed along different stretches of the Wall. Despite this rethink, and the evidence for continued, if subtler, refinement in subsequent centuries, overall the milecastles and surviving turrets seem to display an impressive degree of longevity.

It is apparent that the greatest period of change discernible among them spans the second and early third centuries. The apparent retention of many installations in a recognisable form for c. 200 years afterwards is probably indicative of the general security situation stabilising. Although only a handful of sites have preserved hard evidence for activity in the final days of Roman Britain, this may reflect both the loss of late levels and the possibility that they were missed during some early excavations. The durable utility of these installations presumably demonstrates that the core belief underpinning them was sound; not the need for a rigid spacing system, but the notion that small, dispersed garrisons offered the surest means to enforce movement controls.

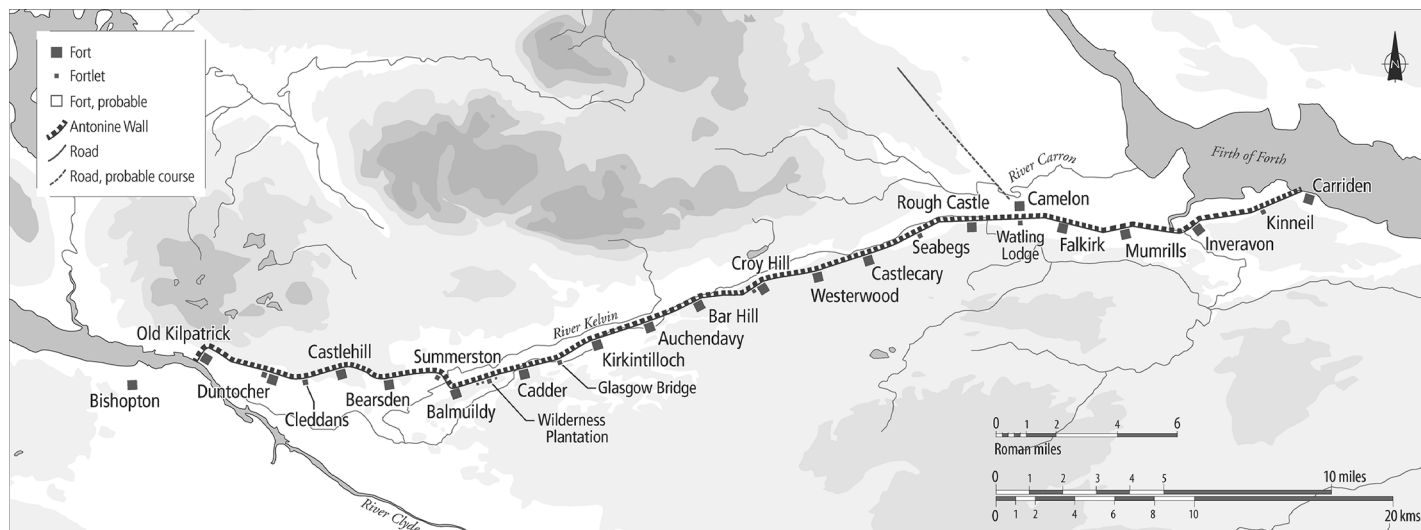
It has been observed that the current fashion in frontier studies is to perceive border landscapes as zones (see Whittaker 1994). The essential concept is convincing: the fort screen north of Hadrian's Wall, and the intricate network of forts to its rear would have engendered a distinctive environment both north and south of the linear barriers. Recognising this gradation should not, however, detract from the existence of an artificial line in the landscape where controls on access to or from the Roman province were applied. What little evidence is available points to the milecastle gateways being ordinarily intended to permit military rather than civilian passage, implying that the latter was routinely restricted to the major road crossings (Hodgson 2005b, 184). This new arrangement on the isthmus must have created winners and losers, and wrought massive social change. The consequence for the community settled on the Northumberland coastal plain – and doubtless others living in the shadow of the border – appears to have been catastrophic. For those living within the embrace of Hadrian's Wall, though, there is every indication that the new anti-raiding shield did help curb disruption emanating from the north. A cessation, or at least reduction in low-intensity disruption is implied by the apparent disappearance of military outposts along the provincial road network between c. AD 160 and the fourth century, with the single exception of Maiden Castle on the Stainmore pass. Rural settlement also underwent a 'rapid expansion' in Roman Britain during the second century, while ultimately villas appear to have been constructed within 22km of the Wall, suggesting that its garrisons made a material contribution to advancing the *pax Romana* (Hodgson 2012, 216; Smith and Fulford 2016, 410). Perhaps the author of Hadrian's biography in the *Historia Augusta* was not so wide of the mark when he used the word 'separate' after all.

CHAPTER FIVE

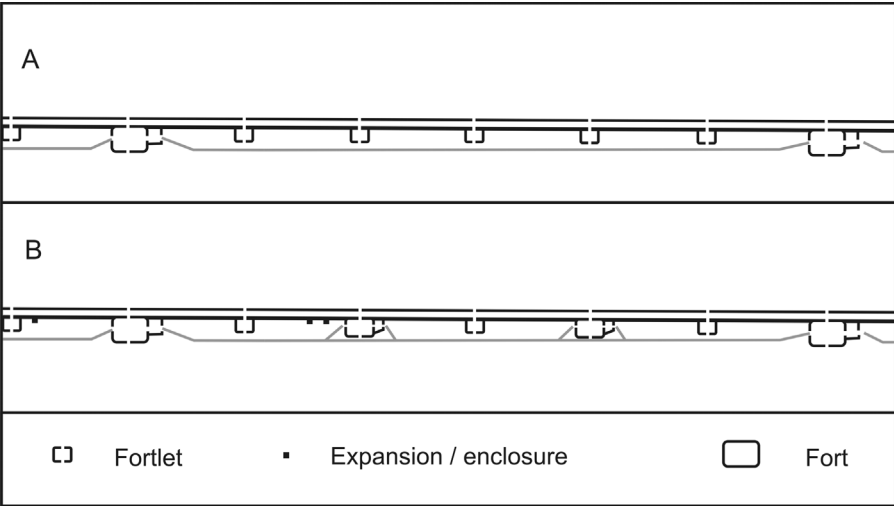
THE ANTONINE WALL

The most influential modern interpretation of the Antonine Wall owes its origins to a slide being accidentally loaded into a projector carousel laterally inverted. The slide in question depicted the earthworks of the Antonine Wall fort at Rough Castle and its two attached annexes, one large, one small. Flipping this image revealed an uncanny similarity between this military complex and a palimpsest of installations further west along the frontier at Duntocher (Gillam 1976, 54). For J. P. Gillam, a distinguished ceramic and frontiers specialist, this happenstance offered a simple explanation to one of the great mysteries surrounding the Antonine Wall: why was its design so different from that of Hadrian's Wall?

In 1976, when Gillam published his findings, the sum total of known outposts along the Antonine Wall amounted to four fortlets (Gillam 1976, 53; Keppie 1980, 107). Although elements of their design borrowed liberally from the milecastle template, the vast number of missing installations needed to replicate their spacing along the 41-Roman-mile-long Antonine Wall curtain indicated that these fortlets were arranged according to wholly different rules of ground. Instead, the slack seemed to have been taken up by a cordon of fifteen Wall forts, which lay at intervals of 3–5km, but ranged in size from 0.2 to 2.6ha (Fig. 37). Gillam's 'eureka' moment was that the small enclosure abutting Rough Castle fort could be an abandoned milefortlet. This allowed him to envision thirty-one milefortlets at intervals of c. 1.1 Roman miles, interspersed between the six larger Wall forts, which Gillam concluded



37 The Antonine Wall in its completed form as currently understood.
Courtesy of David Breeze



38 This diagram summarises Gillam’s view of the development of the Antonine Wall. The first phase shows milefortlets interspersed with forts, before a chain of smaller forts replaced many of the fortlets.

After: Breeze and Dobson 2000

were part of the primary concept (Fig. 38). Half of the milefortlets were subsequently swept away when a wave of secondary forts was built, many too small to hold a complete unit. This created the superimposed installations at Rough Castle and Duntocher, where fort annexes appeared to overlay earlier fortlets. Removing these secondary forts from the equation exposed a frontier design that bore a striking resemblance to Hadrian’s Wall after the fort decision. Thus encouraged, Gillam proposed, on ‘not a scrap of evidence’, that the Antonine Wall milefortlets were interspersed with turret-style watch-towers in accordance with the Hadrianic model (Gillam 1976).

There is no doubt that Gillam’s reading of the monument provides an ingenious and immensely satisfying solution to the puzzle of why the Antonine Wall appears so dissimilar to Hadrian’s Wall. It also strikes at the heart of modern perceptions of Roman frontiers and the nature of control they sought to exert. If the army was able simply to transpose a frontier system that had evolved in response to security needs elsewhere, it would attest to a movement control technique so robust that there was no need to factor in the local population. That real differences in attitudes and martial capabilities existed between the groups living on the Tyne–Solway and Forth–Clyde isthmuses when the respective frontiers were built is suggested by the context. Although the indigenous population living in the former region had been occupied and – presumably – disarmed for roughly fifty years before Hadrian’s Wall was built, the Antonine Wall divided freshly reconquered terrain, where there was presumably both easier access to weapons and greater proficiency in their use. In some regards the modern thesis that a carbon copy of the Hadrianic

model was the obvious option effectively subscribes to its trademark tenet that a chain of outposts every c. 495m presented the most effective method of border control, regardless of local context. As we have seen, there are numerous signs that steps were taken to mitigate the negative impacts of this spacing system on Hadrian's Wall while it was still under construction. Why, then, would the army elect to turn back the clock? The Clyde–Forth isthmus offered an opportunity to develop a frontier system that benefited from almost two decades of experience operating a mural frontier and, critically, tailor it to the physical and human geography particular to the Clyde–Forth isthmus.

It is well known that the army embraced the freedom to dispense with the Hadrianic template in some regards. Notable revisions include the course of the Antonine Wall through the landscape, avoiding an equivalent to the Vallum, and installing a purpose-built road, now known as the Military Way, to service the frontier installations (see Breeze 1982, 105; Hanson and Maxwell 1983a, 85; Poulter 2009, 115). It seems likely that this critical appraisal would have extended to fortlet and tower use. By contrast, one potential area of overlap between Hadrian's Wall and the Antonine Wall that is rarely acknowledged is the existence of a possible precursor for the smaller, supposedly secondary forts: Drumburgh fort on Hadrian's Wall is also abnormally small. Although the degree to which the building order of the Antonine Wall can be reconstructed will be discussed, the widespread use of a turf superstructure prevents the precision achievable on Hadrian's Wall (Hanson and Maxwell 1983a, 104). As such, while the analysis presented here is predicated on the assertion that all – or perhaps nearly all – of the Antonine Wall forts were intended from the start, at present the structural evidence remains inadequate to resolve this matter conclusively one way or another. John Poulter's assessment of how the Antonine Wall was surveyed, though, picked up compelling reasons for believing that the so-called secondary forts were planned from the outset (Poulter 2009, 121–123). What is more, since 1976 the number of Antonine Wall fortlets for which there is direct evidence has crept up to nine, or ten, if you include Laurieston (see Hunter 2006, 386–387). The intervals between some of these fortlets cannot readily be reconciled with a regular spacing system (Poulter 2009, 122), which makes it legitimate to consider what other priorities can be divined from their interrelationship with local factors.

THE EMPIRE STRIKES BACK

The catalyst for the abandonment of Hadrian's Wall and the army marching north into southern Scotland has already been rehearsed in Chapter 3 (see p. 77). The rapidity with which the action followed the death of Hadrian in AD 138 is certainly redolent of the new emperor seeking a victory to reinforce his position (Breeze 1980, 47). If so, it may be telling that the profile of the

inhabitants of southern Scotland was sufficiently high in the eyes of Antoninus Pius's target audience in Rome to furnish the martial glory he sought. We know from the brief reference in the *Historia Augusta* that Pius entrusted the prosecution of the campaign to the governor Lollius Urbicus. In AD 142 Pius accepted a second imperial acclamation and this is generally taken to signal the cessation of combat operations in Britain. Two inscriptions from the new frontier, both formerly adorning the Wall fort at Balmuildy, name Urbicus as governor (*RIB* 2191, 2192). His tenure is not believed to extend beyond AD 142, which suggests that work on Balmuildy fort was well advanced by that date (Hanson and Maxwell 1983a, 112).

It has recently been suggested that a carefully choreographed assault at Burnswark in southern Scotland may date to the Antonine invasion (see p. 87; Reid 2016), while a set of inscriptions from the Antonine Wall seemingly provide generic representations of the combat and its aftermath. This comes not from the texts, but from the tableaux illustrating them. On the Bridgeness distance slab, a Roman cavalryman rides down naked, submissive, dejected, and decapitated locals (Hunter 2012, 18). Another, from Hutcheson Hill, depicts a bound and subordinate pair of prisoners. Such stock scenes of defeated and humiliated adversaries would not be out of place anywhere in the Empire (Breeze and Ferris 2016). It is difficult, though, to reconcile these caricatures of savage and anonymous figures, stripped of their individuality, their clothing, and their liberty, with an occupation that was intended to welcome new provincials within the extended boundary of the Roman Empire. More tangibly, the apparent failure to found formal urban centres or foster the conditions for the emergence of villa estates in the territory between the two walls during the fifteen or so years it was under Roman control betrays a lack of interest in province-building. The feeling may have been mutual. Despite the apparent acquiescence of Carronbridge's inhabitants (see p. 86), the invaders had left once before within living memory and being seen to align with them may well have been considered socially hazardous.

BUILDING THE ANTONINE WALL

As on Hadrian's Wall, many of our insights into the construction process of the Antonine Wall come from a painstaking study of the interrelationship between stone elements. One limitation with this is that the use of masonry was far less widespread on the Antonine Wall, but there is a good chance that this was not the original intention. The fort at Balmuildy, which yielded the two inscriptions naming Urbicus and so must have come early in the building programme, was built of stone. Just like the milecastles and turrets on Hadrian's Wall, it was equipped with stone wing walls, indicating an assumption that Balmuildy would be bonded into a stone rather than a turf curtain. Only one

other Antonine Wall installation is known to have been built of stone, the fort at Castlecary (Hanson and Maxwell 1983a, 105). Completing these two installations provided a permanent fort on both the east and west stretches of the frontier, at sufficiently important junctures within the landscape to make it plausible that they were prioritised for completion. They were probably not the first elements of the fledgling frontier to receive attention, though. Poulter has pointed to indications that the Military Way was both surveyed and constructed early in the sequence (Poulter 2009, 120). As the Antonine Wall lacked an equivalent of the Stanegate road to the south, laying a thoroughfare with hard standing would have been a prerequisite for any serious building operations. Otherwise, the steady movement of men, beasts of burden, and materiel would have rapidly churned any existing trackways into quagmires.

Presumably the 'turf decision' occurred at some point after work on these elements commenced, but before there was any spare manpower to begin work on the wider frontier system. Even without the detailed structural relationships discernible within the fabric of Hadrian's Wall, it is evident that the creative process that ultimately delivered the Antonine Wall could also be tortuous. An occasional feature of the turf stretch of Hadrian's Wall is that the superstructure was raised on a bed of cobbles. On the Antonine Wall, this foundation was developed into a formal foundation raft, usually 4.3m wide, comprising a core of loose stones bookended by roughly hewn kerb stones. This platform could be stepped to provide additional support on inclines and contained regular culverts, allowing water to drain freely. It was also normally laid under the forts, fortlets, and six small, enigmatic features known as expansions. The nature of the junction where the installation foundation rafts intersect with that of the curtain has been instrumental to both disentangling the construction order of the Wall components and the longevity of Gillam's primary and secondary fort hypothesis. There is also strong evidence that it can be misleading (Symonds 2008, 130–137; Graafstal et al. 2015).

Three possible relationships between the curtain and installation platforms exist: the curtain raft butts against the installation raft; the installation and curtain rafts are interbonded; the installation raft abuts the curtain base. These are taken to mean, respectively, that the installation was built first; that the installation and Wall curtain were contemporary; and that the installation was built after the Wall curtain. In essence, for the primary and secondary fort thesis to stand, all of the primary forts and fortlets must belong to the first two categories, and all of the secondary forts must belong to the third. Of the primary forts, Balmuildy and Castlecary were built of stone, Carriden was not in contact with the curtain, and at Old Kilpatrick the curtain abuts the fort. At Mumrills, however, it is a different story. This was the largest fort on the Wall, the home of its most prestigious auxiliary unit, and the lynchpin of the system, but here the stone raft for the fort rampart abutted the curtain

(Steer 1960–1961, 95), supposedly the mark of a secondary fort. One attempt to overcome this problem is the suggestion that the fort was originally founded on a different plot and only later relocated (Bailey 2010), but the evidence for such a dislocation is slight.

All of the known Wall fortlets were raised on rafts that either predate the curtain, or were bonded into it. There are indications at two fortlets, though, that the picture these junctures paint of contemporary construction work is illusory. At Wilderness Plantation the fortlet platform kerbs were of ‘poor quality’ compared to those employed in the curtain (Wilkes 1974, 53), a curious distinction if this masonry was dressed and laid in one go. At Kinneil the excavators were convinced that ‘the base of the Wall was laid out before that of the fortlet’, because there were clear signs that the curtain foundation had been reworked at the point of juncture to make it bond (Bailey and Cannel 1996, 337). The semblance of contemporary construction at Wilderness Plantation was most likely a consequence of similar reworking (Symonds 2008, 138–139).

A fundamental problem for any extrapolation about construction order from the relationship between the foundations rafts is that it does not clarify how the overlying turf superstructure was treated. At Wilderness Plantation, for example, the excavator was satisfied that the turf for the curtain and fortlet was laid in one operation (Wilkes 1974, 53). As the evidence for disjointed construction of the foundation raft at this site is ambiguous, it could be objected that they really were contemporary elements and the construction team simply took the time to discriminate between the high- and low-quality kerbs for the curtain and installation. Such equivocation is more difficult for the Bonnyside East expansion and Rough Castle, the latter representing the textbook example of a secondary fort. In both cases the stone platforms abut the curtain, seemingly cementing their secondary status. Cutting sections across the surviving turf superstructure, though, revealed that the turves building up the curtain and installation had been laid as one (Buchanan 1905, 453; Steer 1956–1957, 164). There is, then, a very real possibility that in many cases the difference between bonded and abutting platforms attests to no more than a few days delay, or even whether the second foundation team bothered to remove the kerb stones to create a semblance of contemporaneity. What does seem certain, is that the relationship between the stone rafts does not guarantee a similar relationship between the upper turf elements (Graafstal et al. 2015, 59). This leaves the military works at Duntocher, Rough Castle, and Croy Hill as the most compelling evidence for the existence of milefortlets on the Antonine Wall.

Of these three, while analysis of Duntocher produces few clear answers (see Box 6), the possibility that the small annex at Rough Castle was originally a fortlet can be rejected with a high degree of confidence (Symonds 2008, 138). The dimensions of the long and short axis of the annex are inconsistent with those of a fortlet, while excavation of the compound revealed that it was initially

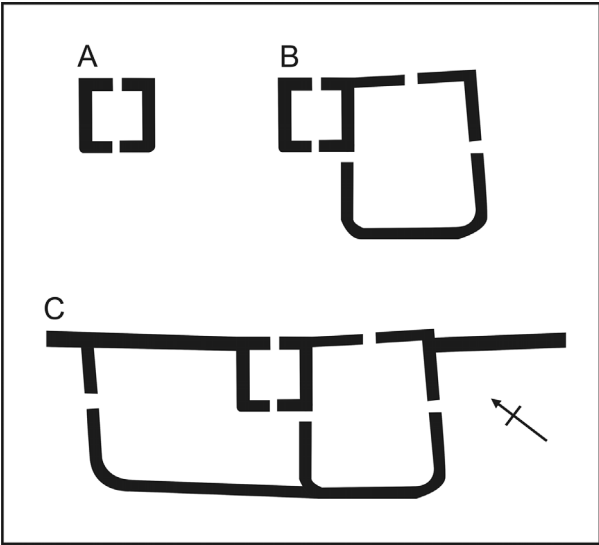
Box 6: Duntocher

The puzzling palimpsest of military features on Golden Hill, Duntocher, represents the most complex structural sequence currently known on the Antonine Wall. Although the order in which the various elements were built can be established with a reasonable degree of confidence, determining their significance is less straightforward (Fig. 39).

The first installation on the site, a freestanding fortlet with an internal area of 313m² (Fig. 39A), was perched on the gently rising plateau near the summit of the hill, but the second feature, a supposed 'fort' (Fig. 39B), was not. Enclosing only 0.2ha, an area more readily associated with fortlets than forts, this new structure could easily have been accommodated on near-level ground to the rear of the intended course of the Wall curtain, if the fortlet was demolished. Instead, the fortlet was retained and the new enclosure was positioned on manifestly unsuitable ground that slopes sharply to the south. The next element to arrive was the Wall curtain, and finally, an annex (Fig 39C) was built abutting the 'fort' and encompassing the fortlet (Robertson 1957). The only structure identified within the 'fort' was a masonry building identified as the *principia*, even though it displays no obvious structural similarities (Robertson 1957, 50). There was also no south gate into the fort, while the northern portal is not beyond doubt (Robertson 1957, 50), leaving a plan that is difficult to reconcile with that of a fort.

The relationship between the fortlet and 'fort' is reminiscent of that between the Antonine fortlets and their annexes at Chew Green and Oxtun (see p. 78). This commonality extends to the 'fort' occupying ground that slopes away from the fortlet. On this basis, it is preferable to view Duntocher 'fort' as a fortlet annex, possibly providing additional security for military convoys before the turf curtain was laid. The significance of the 'annex' that later encompassed the fortlet on the hilltop is harder to gauge. It is possible that the traditional interpretation is correct, although it would be exceptional for a fortlet to be associated with a pair of large outer compounds. It has been proposed that the enlarged defensive perimeter on the hilltop represents the real fort at Duntocher (Swan 1999, 431–433). This would be a better fit with the topography, but too little is known about the nature of this compound for certainty.

bound by a stout wooden fence rather than an earthwork (MacDonald 1933, 257–262; Graafstal et al. 2015, 60). Gillam (1976, 54) conceded that the putative fortlet 'does not resemble a milecastle . . . at all closely', and it is probably a small annex. Croy Hill is harder to dismiss, as it remains indisputable that a fortlet was established 80m west of the fort (Hanson 1979, 19), resulting in an uncomfortable proximity between these installations (Fig. 40). As the fortlet was founded on a plateau high above the fort site, this could be another example of an outpost being paired with a larger installation to plug a blindspot. It is not an entirely satisfactory explanation, though, as a tower rather than a fortlet might be expected so close to a fort. In this context, it should also be noted that the



39 The traditional interpretation of the development of Duntocher, from fortlet (A), fortlet and an enclosure viewed as a fort (B), and the addition of the frontier curtain and a further enclosure (C).
After: Robertson 1957



40 Antonine Wall fortlet locations: (A) Croy Hill fort (under the trees to the left) and fortlet (arrowed). (B) Wilderness Plantation occupied a nondescript ridgeback approximately midway between two forts. (C) Looking north-west from Balmuldy fort, the site of Summerston fortlet (arrowed) is obscured by rising ground to its south. (D) The fortlet at Duntocher, marked out in turf, looking south-west.

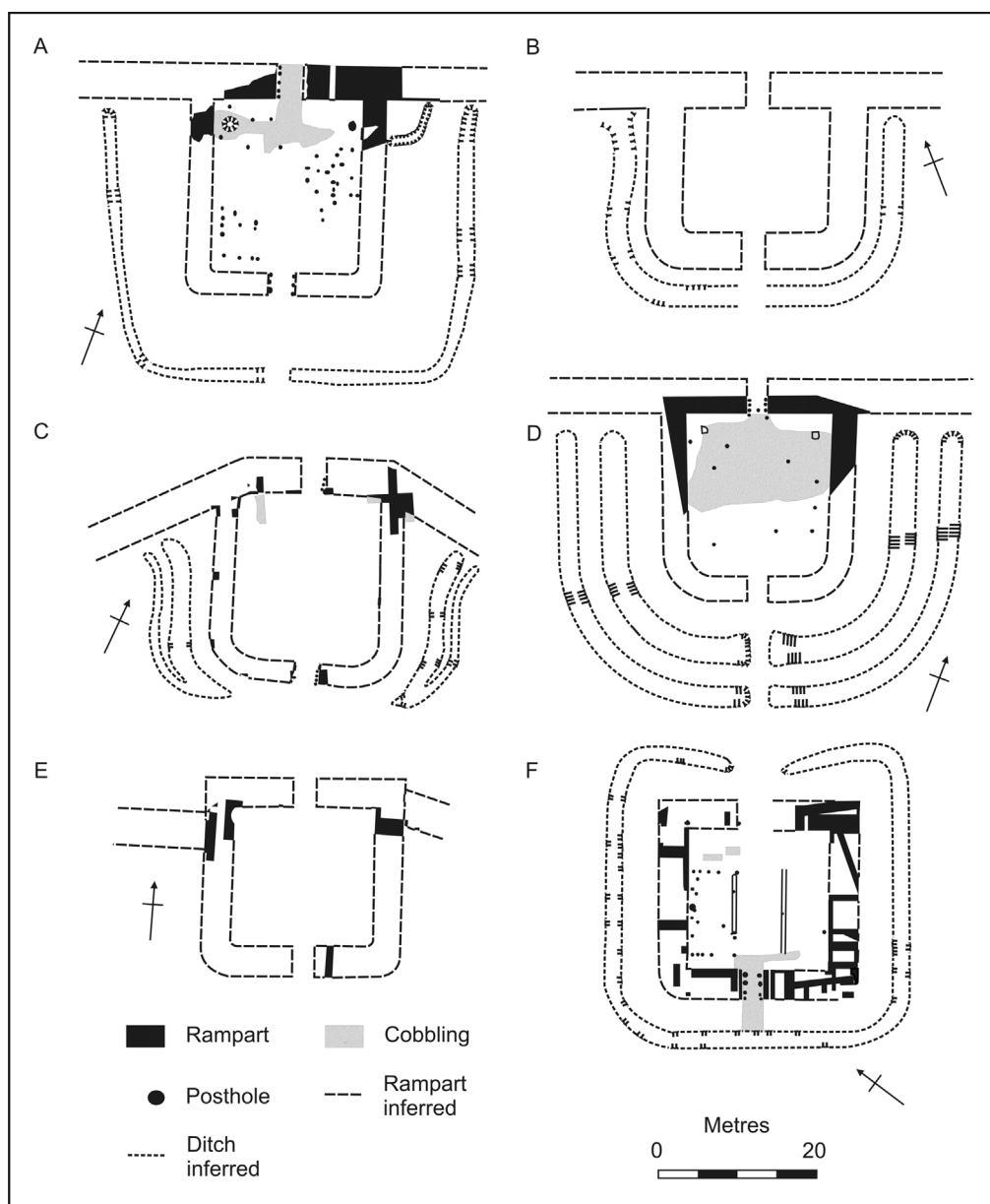
presence of a fortlet-shaped platform can be distinguished in a field directly west of Bar Hill fort. The origin of this platform remains uncertain, but its presence cautions against asserting that no fortlets – apart, presumably, from Duntocher – were replaced by forts on the Antonine Wall. Despite these grounds for doubt, though, the structural evidence from the frontier appears inadequate to bear the weight of Gillam's hypothesis, and so it is rejected here.

DESIGNING AND OPERATING THE WALL FORTLETS

It is received wisdom that the Antonine Wall fortlets share many common features with their Hadrianic precursors, including being physically anchored into the running barrier and containing two gateways permitting passage through the curtain (Bailey and Cannel 1996, 338; Fig. 41). The general format was not regurgitated without revision, though, and unlike most milecastles, the Antonine Wall fortlets were equipped with defensive ditches. An important nuance to this shared archetype that is rarely explored is that the fortlet design seemingly owes a greater debt to the original milecastle layout than the post-fort-decision model. Instead of containing unused space, the situation within the fortlets is aptly summarised by the excavators' description of Kinneil as 'quite built up' (Bailey and Cannel 1996, 338). Only two other fortlet interiors have been substantially explored, but these have also presented evidence for wooden buildings existing on both sides of the internal road (Robertson 1957, 26; Wilkes 1974, 55).

The full size of the timber structures is unknown, but it seems likely that they represent the timber equivalent of the double barrack blocks in milecastles 47 and 48 and also held a garrison of about thirty-two (Bailey and Cannel 1996, 340). Indeed, the similarities with this pair of early milecastles may run deeper, as the average internal area of the Antonine Wall fortlets is 351m². This brings them closer to the average size of milecastles 47 and 48, 393m², than the overall Stone Wall milecastle average of 292m². As we have seen (p. 115), thirty-two soldiers would be sufficient to create a sustainable garrison, with around a third of the men on duty at any given time, while the remainder slept or relaxed. The inference from such a detachment strength is that the method proposed for the post-fort-decision version of Hadrian's Wall, whereby the milecastle garrisons were regularly relieved and returned to the forts for rest, was not adopted on the Antonine Wall. Whether this reversion to what was seemingly the original plan for the milecastles has any significance beyond fortlets holding a full complement of troops being the normal arrangement is hard to say. It is possible, though, that unease about local security on the Antonine Wall made larger numbers of soldiers in these posts desirable. After all, in an emergency off-duty soldiers could still be called to arms.

Estimates of how long the fortlets were in operation remain controversial. The belief that the fortlets had 'a life of months rather than years' can be



41 Fortlets on the Antonine Wall: (A) Kinneil, (B) Watling Lodge, (C) Seabegs Wood, (D) Wilderness Plantation, (E) Cleddans, (F) Duntocher.

After: Bailey and Cannel 1996; Breeze 1972–1974; Keppie and Walker 1981; Wilkes 1974; Robertson 1957

contrasted with pottery assemblages from Kinneil and Seabegs Wood, which ‘might indicate a fairly lengthy period of occupation’ (see Keppie 1980, 110; Keppie and Walker 1981, 149; Bailey and Cannel 1996, 329; Hanson 2014, 8). Such arguments hinge on the character of a secondary surface of cobbling that was laid within the fortlets. At Wilderness Plantation this seems to have been

accompanied by the elimination of the barrack blocks, while the presence of cobbling at Duntocher and Croy Hill places it in fortlets that were supposedly demolished soon after construction. Taken together, this has led to the cobbling being widely perceived as a symptom of the fortlets being decommissioned and prepared for use as ‘temporary camp-sites or the like’ (Keppie 1980, 110). Such a surface would be perversely difficult to pitch a tent on, however, and at Duntocher there was evidence that one phase of barrack postholes survived the cobbling being laid (Robertson 1957, 29). The retention of the lean-to structures at Wilderness Plantation and Kinneil would also fit with continued occupation, as does the broad similarity between the types of pottery discarded above and below the cobbling at the former. Combining this with the strong possibility that Duntocher and Croy Hill were not rapidly superseded by secondary forts removes the need to perceive the cobbling as a by-product of the decommissioning. Instead, this labour can be construed as an initiative to keep the fortlets operational by adapting them to the elements. Otherwise episodes of intense precipitation coupled with limited drainage would have transformed the ground within the defences into a morass (Symonds 2008, 145–146; Graafstal et al. 2015, 61).

A further revision to the original template may have had longstanding implications for the role of frontier fortlets in Britain, as it foreshadows two fundamental alterations to the milecastles in the late second century. Of the Antonine Wall fortlets, Watling Lodge is the only one to have an extant causeway crossing the Wall ditch to its north. This installation can fairly be described as an exceptional case, as the main highway leading north-east issued from its gateway (Breeze 1972–1974, 166). Excavations at Kinneil revealed indications that a causeway had been dug out opposite the fortlet gateway (Bailey and Cannel 1996, 337), a revision that appears to have been executed on a frontier-wide scale. Tentative traces of the north fortlet gates being narrowed or blocked were also detected at Kinneil, Seabegs Wood, and perhaps Wilderness Plantation, while the former may also have had its north gate tower eliminated (Bailey and Cannel 1996, 342; Keppie and Walker 1981, 145). Nominating causes for these alterations is speculative, but two scenarios may be considered. The absence of an equivalent to the Vallum on the Antonine Wall meant that there was no additional check on who the fortlet garrisons were allowing through, which may have proven imprudent. Alternatively, an attack could have persuaded the army that the gateways were too vulnerable. Whatever the impetus, the consequence was that the frontier seemingly lost more than a third of its gateways, becoming significantly less porous.

Location, Location, Location

The absence of an equivalent to the Stanegate road system south of the Antonine Wall freed its curtain from the shackles of maintaining a southern

aspect (Poulter 2009, 115). The military surveyors exploited this potential to full effect, and for much of its length the curtain adopts a sinuous and undulating course, typically wringing every advantage out of the topography. Despite the dramatic terrain traversed by the Wall curtain, one striking feature of the fortlets is that they generally avoid occupying the sloping ground or evidently flawed positions that afflict some central sector milecastles on Hadrian's Wall. The closest parallel is provided by the Croy Hill fortlet, which lies south of a sharp drop, but even here the installation has been neatly tucked onto a level shelf of land. Elsewhere, the command of the local terrain exercised by individual fortlets ranges from the sublime to more utilitarian vantage points of a comparable calibre to those exploited by some 'interval' fortlets on the road network. The end result suggests that there is no need to envision fortlets at arbitrary mile intervals along the Antonine Wall (Symonds 2008, 146).

Chief among the more workmanlike locations are the plots occupied by the fortlets at Wilderness Plantation, Seabegs Wood, and Watling Lodge. Intriguingly, the essential relationship between these fortlets and their neighbouring forts would not be out of place on the road network. All three outposts resemble classic examples of 'interval' fortlets that were obliged to make the best of unremarkable terrain at the approximate midpoint between two forts (see Wilkes 1974, 65; Fig. 40; Fig. 37). Although the distances of about 1.75–2.25km between the garrisons are far shorter than those encountered along roads – unless you count the Gask Ridge and Stainmore tower cordons – this proximity would be essential along a frontier line, as an ability to detect and forestall unauthorised incursions is fundamental to exerting control over movement. Despite this clear concession to border control, in some regards the presence of the Military Way renders the Antonine Wall fortlets far closer to road fortlets than the milecastles. The apparent absence of a comparable service road on Hadrian's Wall until the 160s, the distance to the Stanegate road, and the unsuitability of a wall-walk for dispatch riders count against the milecastles originally operating within a road-fortlet-style mounted message relay system. Perhaps this was one reason why so much effort was seemingly expended on a signalling network on Hadrian's Wall. The configuration of most fortlets and forts along the Antonine Wall, however, would be perfect for the rapid transmission of messages via relay riders (Symonds 2017, 40).

The three fortlets to the west of Balmuilty fort display the greatest flair for capitalising on the landscape. Curiously, this is also the sector where Poulter noted that the Wall curtain increasingly trades sweeping views to the north for command of the southern approaches to the frontier (Poulter 2009, 115). In many ways Summerston fortlet exemplifies this preoccupation with the south, as it commands a magnificent view to the south and south-west and occupies what would otherwise be a local blindspot along the frontier curtain (Symonds

2017, 41; Fig. 40). The fortlet is also intervisible at tower height with Balmuilty fort, which lies 1.1km distant along the curtain and suffers from a particularly restricted view in these directions (Graafstal et al. 2015, 64). The Summerston–Balmuilty pairing therefore represents another technique that we have repeatedly encountered among freestanding fortlets, but which does not occur on Hadrian's Wall: a subordinate, satellite outpost that extends the visual range of another installation. Although at Balmuilty the installations comprise a fort and fortlet, the topographical situation is comparable to that overcome using a fortlet and tower on the Stainmore pass (see p. 75). Employing a fortlet where elsewhere a tower might be expected could even reinforce the possibility that the other potential example of such a pairing, on Croy Hill, was considered beneficial.

The two remaining fortlets that have been detected towards the western end of the Antonine Wall were constructed in advance of the curtain, making their locations of particular interest. Cleddans dominates a warren of valleys approaching the frontier from the south, and this rearwards aspect seems to have been inadvertently acknowledged in the fortlet design. Elsewhere, when one side of the fortlet rampart is wider than the others, it is uniformly to the north, where it connected with the Wall curtain. Uniquely, at Cleddans the wide length of rampart faces south (Keppie and Walker 1981). It seems that the focus on commanding the labyrinth of passages approaching the frontier prompted the construction team to build the fortlet the wrong way around. The final example of these westerly fortlets lies at the heart of the installation palimpsest at Duntocher, and offers the finest example of landscape control by a fortlet on the Antonine Wall (see Box 6; Fig. 40). It overlooks the sharp defile incised by the Duntocher Burn as it approaches and crosses the frontier line, making this precisely the location that a priority milecastle would be expected on Hadrian's Wall. Given that the three known fortlets in the western sector effectively or, in the case of Cleddans, literally 'face' south, it seems certain that small groups either living within Roman territory or approaching it from the Clyde were a source of concern. To counter this, the course of, and deployment along, this stretch of frontier seems to have adopted subtly different parameters to the remainder of the frontier. It is intriguing that the western sector displays signs of being 'different', as this is also the case on Hadrian's Wall. There, though, the problem seems to be to the north, while on the Antonine Wall it clearly lies to the south. Given the density of outposts along Nithsdale and Annandale, and the possible assault at Burnswark, there seem to be consistent signs that the Romans found the west to be wild.

If the flexible spacing of the fortlets was also extended to the turrets, it might help explain why no certain examples of these have yet emerged. Towers have been suggested at Callendar Park and Garnhall, but in neither case are they

wholly convincing as Antonine Wall turrets (Bailey 1995, 585–586; Woolliscroft 1996; Hodgson 2009c, 60). Manned outposts, far smaller than fortlets in size, have, however, been known along the frontier for a long time. We have already encountered the ‘expansions’, which are small square extensions to the curtain, in the context of the building programme. A second category of smaller structure is the ‘enclosure’, literally a short stretch of ditch and perhaps rampart demarcating areas c. 6m square to the rear of the curtain. Both categories of smaller structure were usually arranged in pairs and have yielded occupation material, indicating that they were manned (Steer 1956–1957, 167; Hanson and Maxwell 1983b, 238). A connection between the enclosures and the missing turrets has been suspected for some time (Woolliscroft 1996, 171). The broad parallels between the distribution of the enclosures and expansions, coupled with the striking resemblance the latter bear to the earth-cored Egyptian *skopeloi*, would fit with the expansions also being manned observation posts. As an ability to oversee the entire length of the curtain would minimise opportunities for unauthorised crossings, it is plausible that outposts of some form await discovery in the existing blindspots.

THE COASTAL CORDON

The intuitive approach to outpost spacing proposed for the Wall line can be proven along the frontier’s western coastal flank. The distribution of fortlets on the hills overlooking the Clyde channel exercises a restraint that contrasts with the excesses of the Cumbrian coastal chain beyond Hadrian’s Wall (Symonds 2008, 149). On current knowledge the Antonine coastal sequence only comprises three installations: the fort at Bishopton, and two fortlets at Lurg Moor and Outerwards (Fig. 42; Newell 1976; Hunter 2016, 294–295). Their combined viewshed allows direct supervision of 50km out of a 55km stretch of the Clyde from the Antonine Wall terminus at Old Kilpatrick to the southern tip of Rothesay Island. The 5km blindspot could have been easily plugged by installing a fortlet or tower near the trig point on Burneven Hill, where it would also enjoy a visual link back to Lurg Moor fortlet. As this would complete the surveillance screen along the Clyde, an undetected installation may well lie in that area.

Excavation revealed that Outerwards contained two barrack blocks, while the exceptional preservation within Lurg Moor indicates that there, too, barrack blocks stood either side of the internal road. Employing a very rough estimate of up to thirty men in these fortlets, and allowing for a third installation at Burneven, makes it probable that the maximum total number of soldiers deployed in the coastal outposts was ninety men, with a fort in support. Comparing this with the theoretical maximum of 600 soldiers in milefortlets along 35km of the Cumbrian coast provides an order of magnitude



42 The fortlet at Lurg Moor.

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for the manpower savings achievable when the terrain is used to maximum advantage. Naturally this oversimplifies the situation as it fails to take into account either the varying local population numbers to the north of the Solway and the Clyde, or the indications that the region to the north of the Cumbrian coast was especially restless. It does, however, exemplify the contrast between the regimented Hadrianic coastal concept and a flexible Antonine approach.

Given the difference between the low, sandy dunes and windswept ridges found on the Cumbrian coast, and the high moors and abrupt slopes that characterise the Antonine Wall's coastal flank, it is natural that different relationships with the shoreline would occur. In Cumbria, all of the mile-fortlets and towers were positioned close to the sea, and in most cases accessing it from the outposts was straightforward. Lurg Moor and Outerwards are 2.2km and 4km distant, respectively, from the Firth of Clyde. In both cases

the fortlets could have been founded on ground far closer to the coastline that afforded lesser, but still generous, views. Instead, immediacy to potential landing grounds was sacrificed in favour of equipping the garrisons with the widest possible viewshed over the watercourse. The position of Lurg Moor is particularly reminiscent of Old Burrow, on the Exmoor coast (see p. 50). Both fortlets were founded on ground sloping gently towards the sea, back from a cusp where the ground dropped away (Fig. 42). Unlike Old Burrow, though, which stood sentinel over an obscure landing ground on an already remote stretch of coast, Lurg Moor dominates the modern harbour at Greenock. As at Old Burrow, this sleight of hand conjures an impression of coastal control, which is belied by the arduous scramble required to reach the sea from the installation. Given this disconnect between the appearance and actuality of the close control that the Antonine coastal fortlets exercise, it seems likely that they were partially valued for their deterrent effect. Even so, the soldiers should not have had any difficulty intercepting small groups attempting illicit landings during daylight, partly because their vessels ought to have been spotted long before they beached, and partly because the fortlet garrisons probably included cavalry, while those travelling by boat presumably did not have horses.

REGULAR IRREGULARITY

Dismissing the Gillam hypothesis and the need to shoehorn the fortlets into a regular sequence exposes a frontier that both borrowed from and improved on its southern precursor. The Antonine Wall's recent reputation as a simulacrum has obscured the sustained innovation that distinguishes the two frontiers. Some examples of this, such as placing smaller forts at closer intervals, can be construed as an attempt to develop a design that matched the needs of the Clyde–Forth isthmus; others, like the foundation raft for the turf curtain, represent solutions to problems that emerged on Hadrian's Wall. Indeed, the areas of overlap between the two frontiers are really only twofold: the retention of the concept of anchoring the fortlets, most forts, and probably any turrets, into the curtain; and the reuse of the milecastle design, albeit in its original form. This continuity of the curtain as a line of connectivity is a strong reason for believing that a rampart walk also existed along the Antonine Wall. Perhaps most interesting is that the enduring acceptability of the milecastle template indicates that the only serious problem with the concept was the fussy and occasionally counterproductive insistence on short, relatively inflexible distances between installations. The shortcomings of this conceit were brutally exposed on the central sector of Hadrian's Wall, and an assessment of the positioning of the Antonine Wall fortlets strongly indicates that the army resisted making this mistake twice.

Those responsible for determining the spacing of the fortlets and their articulation with the forts seemingly found inspiration from another source: the road network. The presence of both 'interval' and 'satellite' fortlets indicates a willingness to incorporate techniques that had proven effective elsewhere. This approach created a more efficient frontier, which was finally able to bring the original milecastle design – if not its spacing – into operation. An awareness of the successes of outpost use along highways may also have prompted a return to the use of fortlets as message centres, relaying circulars to neighbouring posts via dispatch riders. Although it cannot be proven this role was not adopted by the Hadrianic milecastle cordon, the apparent absence of a metalled pre-AD 160s support road – if accurate – suggests that the infrastructure to support such a network was not a priority. If the traditional chronology is correct and a support road was installed directly to the rear of the Hadrian's Wall curtain soon after the return from the Antonine Wall (Breeze 2006, 89), it may be because the advantages of such an arrangement had been demonstrated. An increased reliance on mounted messengers along Hadrian's Wall after the return from the Antonine Wall may even have come at the expense of any signalling system.

If so, this is only one way in which the Antonine Wall fortlets signposted the future direction of evolution of the Hadrian's Wall milecastles. Foreshadowing of the three biggest late-second-century changes to their fabric can be found on the Antonine Wall. The elimination of the Wall ditch causeways, narrowing of the gateways, and elimination of the gate towers had all either certainly or conceivably been initiated on the Antonine Wall, before being exported south. Changes to the fabric of Hadrian's Wall did not follow immediately, though, and the traditional chronology suggests a timelag of a decade or more between the withdrawal south and the implementation of these alterations. Rather than an automatic refit inspired by experience on the Clyde–Forth isthmus, this might suggest that by the late second century the security situation along Hadrian's Wall had evolved to resemble that on the Antonine Wall. A more prosaic explanation would be that operational changes on the Antonine Wall over the course of its lifespan made large fortlet gateways redundant and therefore an unnecessary point of weakness. There are some indications that the milecastle gates were used less following the return from the Antonine Wall (Symonds 2013, 63–64), which could suggest that the army brought the new way of running a border back with them and that this was ultimately reflected in the narrowing of the portals.

The trigger for the evacuation of the Antonine Wall probably lies in the years leading up to the death of Antoninus Pius in AD 161. That the northern line was unsustainable seems to have been tacitly acknowledged in AD 158, by which time repair work on the curtain of Hadrian's Wall was underway (Hodgson 2009b, 192). As we will see, this is also around the time that the frontier was advanced in Germany, perhaps indicating that Pius's nominated

successor Marcus Aurelius advocated cutting losses in Scotland and refocusing on Upper Germany and Raetia (Sommer 2011, 176). As Antoninus's Wall arguably represents a leaner, more functional, and more intelligent solution to border control than its predecessor, it is worth questioning why it failed. Ultimately the answer must boil down to a lack of interest among enough of the local population of southern Scotland in what the army – and the Roman state – had to offer.

If the western stretch of Hadrian's Wall was built in turf to speed its completion in the face of a security threat (Graafstal 2012, 136–138), what does that imply about a decision to switch from stone to turf construction for the entirety of the Antonine Wall? The distribution of force along the frontier also seems relevant here. If the typically full-size and comparatively widely spaced forts on Hadrian's Wall aided conducting forward defence well to the north, then the segmented units set at closer intervals along the Antonine Wall would fit with a greater emphasis on conducting such operations rather closer to the curtain. This hint of greater pressure on the Wall itself can be coupled with suggestions of problems to the south. These are discernible in both the absence of any overt attempts at province building within the freshly reconquered territory and the arrangement of the westerly frontier components. Among the latter, the positioning of Lurg Moor so that it looked north over the Clyde – and Duntocher, Cleddans, and Summerston so that they commanded the approaches from the Clyde valley to the south – suggests that low-intensity threats were accessing the region via the Clyde.

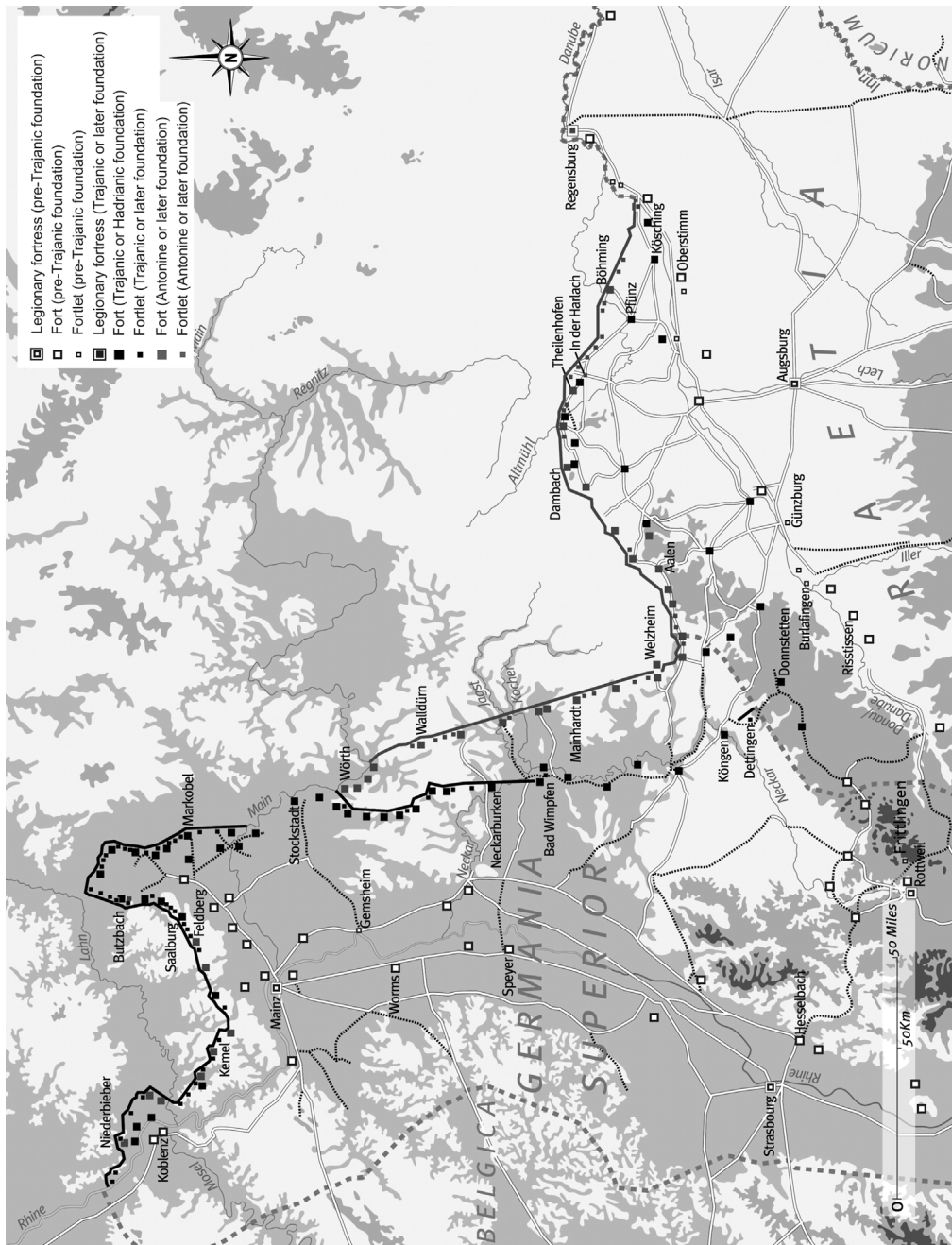
One possible conclusion is that while the Antonine Wall demonstrates the army's mastery of the physical geography, it failed to cater adequately to the needs of the human geography (Symonds 2017, 41). Perhaps the history between the Roman army and the peoples inhabiting southern Scotland made a rapprochement or even an accommodation unappealing to both groups. Perhaps twenty years of stasis had blunted the army's aptitude for province building. Perhaps they simply never had sufficient manpower to hold more than the Wall, the forts beyond it to the north-east, and the critical lines of supply and communication to the south. Or perhaps memories of Rome's ignominious retreat forty years earlier left many members of the local population unwilling to endanger longstanding social ties in order to align themselves with newcomers whose presence – and protection – had proven fleeting once before. Naturally, the potential for speculation is endless. What is certain, is that emphasising the nature of the differences between Hadrian's Wall and the Antonine Wall does not make the latter appear anomalous. On the contrary, rejecting the regular spacing system, employing 'interval' fortlets, and attempting synergy with the local geography makes the Antonine Wall a more comfortable fit with military, and especially outpost, techniques employed elsewhere.

CHAPTER SIX

THE UPPER GERMAN AND RAETIAN *LIMITES*

The scale of the German *limites* far exceeds the overland distances that the Roman army divided in Britain. Running for almost 550km between the Rhine and Danube rivers, the vestiges of these frontier systems constitute an archaeological monument of breath-taking scope and complexity (Fig. 43). Over 60 forts, 900 towers, and 90 fortlets are known to have been arrayed along the border, while its course ultimately brought it within the jurisdiction of two different provinces: Germania Superior and Raetia. Although this is traditionally viewed as a single frontier, current research is emphasising the differences between the Upper German and Raetian sectors (Sommer 2011), and so they will be referred to as two distinct but ultimately conjoining *limites* here.

Compared to the British mural frontiers, the timber palisades that provided the first cohesive running barrier in both Upper Germany and Raetia appear slight (Bidwell 2008). There was also a different relationship between the manned installations and the linear barrier. Whereas in Britain they were usually physically integrated, in Germany these posts were set back from the palisade, creating a wider frontier strip. This space seems to have been ordered so that the towers typically lie closest to the palisade, while the fortlets were normally set further to the rear, with the forts often beyond them. Unlike Hadrian's Wall and, most likely, the Antonine Wall, where the majority of outpost positions were fixed during the construction period and either changed little or were abandoned thereafter, the looser integration along the



4.3 A map of the Upper German and Raetian *limites*, including both pre- and post-Trajanic forts and fortlets. The course of both the 'inner' and 'outer' *limes* in Upper Germany is shown.

By Ian Bull

German *limites* presented greater scope for flexibility. There are numerous examples of fortlets being superseded by larger installations, or downgraded to towers as circumstances dictated. Such refinements presumably reflect both an evolving security situation, and considered reassessments of manpower distribution. All told, they cast the *limites* as far more dynamic and responsive entities than the British frontier systems.

Attempting to establish the purpose of the *limites* is hindered by the infrequency with which changes can be closely dated, and uncertainty concerning how many outposts, and in particular fortlets, remain undetected. Such intangibles can make the relative predictability of Hadrian's Wall appear appealing, but they also emphasise the extent to which the German *limites* developed organically. This is especially true of the initial phases of the Upper German *limes*. Rather than the outposts, forts, and linear barrier being conceived as a single concept, it evolved gradually, and at different speeds in different places. The potential scale of these chronological disparities has recently been demonstrated by the revelation that the earliest linear barrier along the Raetian *limes* was not established under Hadrian, as was long assumed, but late in the reign of his successor, Antoninus Pius (Sommer 2011, 175). It is still less than two decades since the earliest permanent installations on the course of the Upper German *limes* in the Wetterau and Taunus region were redated to the early second century, instead of Domitian's Chattan wars of AD 81–85 (Kortüm 1998, 51–52). That such chronological revisions remain possible emphasises the greater absolute and relative dating challenges presented by the less-integrated nature of the German border works. Sommer has argued that the evolution of the Raetian border 'did not necessarily constitute a comprehensive series of planned, incremental steps. Instead, they appear to be a series of individual, relatively short-term systems that were maintained at the frontier, with occasional phases of neglect in between' (Sommer 2011, 175). The precise end dates of the border works are also opaque. An abandonment of the Raetian system in AD 254 has been proposed, while the latest coins from the Upper German *limes* outposts were minted in the mid AD 260s (Sommer 2011, 177; Fleer 2011, 184).

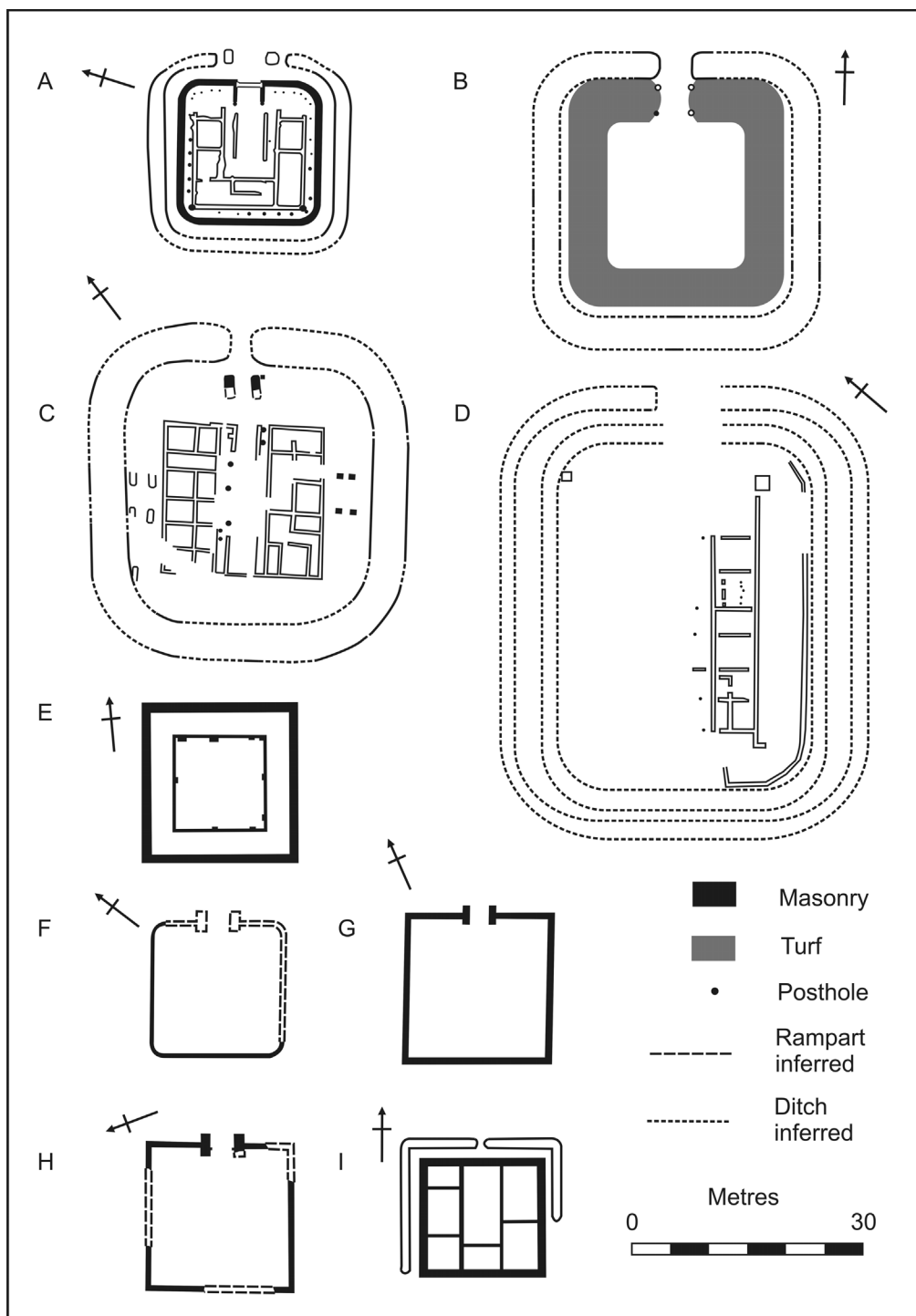
A FLEXIBLE FORMAT

Although the freedom of the German *limites* from an overarching and integrated 'grand design' of the type that characterises the British mural frontiers can create headaches for modern frontier specialists, it promoted the development of a far leaner and more efficient frontier system. We have seen that along Hadrian's Wall and especially the Antonine Wall there are indications that the general border template could be subtly tweaked to accommodate local factors. Such localism is far more evident on the German *limites*, where

different lengths of border seem to display varying approaches to finessing the configuration of military resources. The most egregious example of this is the famous stretch of the 'outer *limes*' erected in the late Antonine period, which runs near straight for 80km. Described as 'one of the masterpieces of ancient surveying and engineering' (Reuter and Thiel 2015, 35), the unmistakable contempt this stretch of linear barrier displays for the nuances of the topography draws attention to one of the great contradictions of the *limes*. Elsewhere, particularly in mountainous regions, along the river Main, and in the northern portion of the fertile Wetterau salient, both the course of the barrier and the arrangements of the outposts along it appears carefully tailored to the terrain. But these stretches co-existed with lengths of border that are less striking than the outer *limes*, but still plough straight lines through extended swathes of the landscape. The sinuous line of the frontier as it follows the Odenwald ridge, for instance, finds its antithesis in the straight line it adopts directly to the south. This dual approach may have been dictated in part by the severity of the terrain. An alternative explanation is that straight lengths were favoured in areas of dense forest (Woolliscroft 1997, 601).

When considering the *limites* in their entirety, it is clear that the fortlets come in multiple sizes, feature varying designs, lie between a few metres and 750m behind the running barrier, and have memorably been observed to exhibit 'an equally unequal distribution' (Woolliscroft 2001, 103; Baatz 2007, 14; Fig. 44). This inconsistency is frequently judged explicable as an attempt to capitalise on the strengths or mitigate the weaknesses created by the local human or physical geography (Baatz 2007, 11–14; Symonds 2009a, 960–961). Such an approach would be entirely in keeping with the arguments for outpost use advanced in this study. Despite the broad irregularity of fortlet design along the *limites*, though, discrete clusters of installations displaying a continuity of approach do seem to exist (Woolliscroft 2001, 105–109). Although the boundaries between these different techniques are rarely cleanly defined, and the chronologies of individual components are frequently ambiguous, it is conceivable that such divergences reflect, in part, the influence of different spheres of command. If so, some local commanders seemingly had more autonomy over how soldiers within their sectors were deployed than their counterparts on Hadrian's Wall. Assuming such variations are not entirely a consequence of the whims of local commanders, they also provide a glimpse of the different pressures exerted along stretches of this extraordinarily long artificial barrier.

Given the stark differences in design exhibited by the artificial borders in Germany and Britain, the implications of these for border control methods must be weighed. On one level, it is indisputable that the British frontiers offer more substantial, and therefore more conventionally defensible, obstacles. On another, we have already seen that the configuration of the British border outposts is most intelligible as a mechanism to deter, or detect and destroy low-



44 Fortlets on the Upper German (A–D) and Raetian *limites* (E–I). These fortlets are: (A) Rötelsee, stretch 9; (B) Forstthofweg, stretch 1, (C) Degerfeld, stretch 4, (D) Pohl bei Kemel, stretch 2, (E) Hintern Schlossbuck, stretch 14, (F) Raitenbuch, stretch 14, (G) bei Petersbuch, stretch 14, (H) Hegeloh, stretch 14, and (I) Hienheim, stretch 15.

After: Planck 1974; Fabricius 1915; Jorns and Meier-Arendt 1967; Fabricius 1916; Ramstetter 2015a; Fabricius 1928; Hüdelpohl 2015

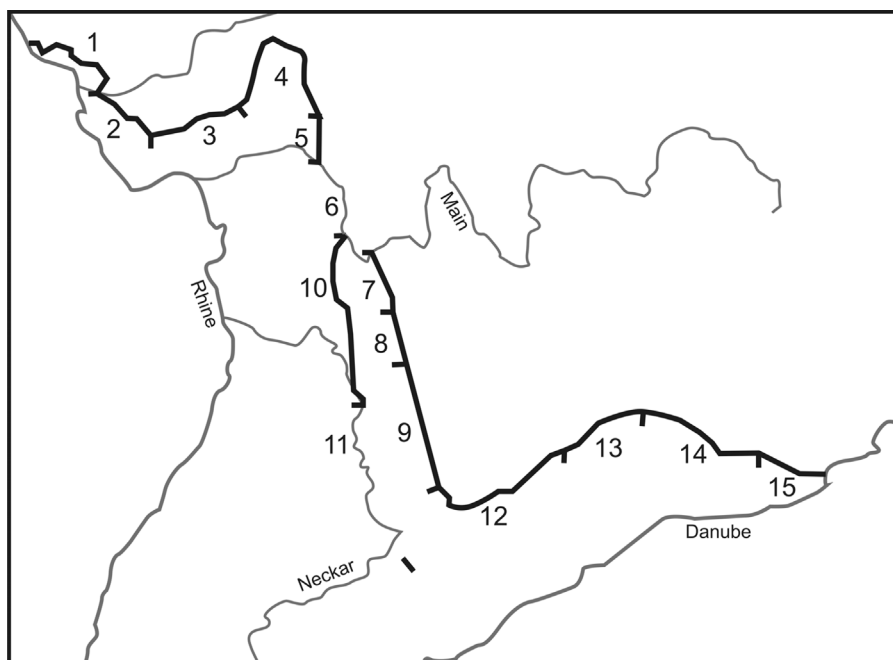
intensity attempts to steal across the frontier curtain. If this is also true of the German *limites*, why is the frontier fabric arranged so differently? The following discussion considers the legacy of early investigations into the German *limites*, before dissecting the border chronology, and assessing the role of its outposts.

WATCHING THE *LIMES*

In 1892 the Reichs-Limeskommission was founded by Theodor Mommsen with a brief to study the relics of the Roman border. To this end, the Kommission sought to clarify the course of the frontier and catalogue the installations arrayed along its entire length. The fruits of this Herculean labour were regularly published in the *Obergermanische-Raetische limes des Römischen Reiches* (*ORL*) series from 1894 to 1937. Although the *ORL* volumes are frequently more detailed than other contemporary archaeological reports, they are inevitably a product of their time. In particular, the recorded outposts may well reflect the relative visibility of turf and masonry elements. In places, turf and timber features survive as earthworks, but elsewhere, as within the fertile farmland of the Wetterau, long stretches of frontier are no longer clearly visible as surface features. In such circumstances, the vestiges of masonry installations are easier to detect, and an assessment of the fortlets described in the *ORL* reveals that far more examples with stone than turf defences are known.

It is impossible to be certain whether this bias towards stone fortlets reflects a genuine disparity between the original number of turf and masonry installations, but it seems most likely that the former are currently disproportionately under-represented. Some are probably obscured beneath masonry successors, as has proven to be the case at Degerfeld and Haselburg, stretches 4 and 7, for instance (Jorns and Meier-Arendt 1967, 16–18; Nuber 1976, 65–66; Fleer 2011, 182–183). The presence of what appear to be superimposed timber and masonry gate elements at some other fortlets, including Rötelsee, stretch 9 (see Planck 1974; Fig. 44), suggest that further examples exist. Finds assemblages recovered during early excavations also received variable treatment within the *ORL* volumes, and the depth of information presented is not always sufficient for the results to be critically analysed today (Jae and Scholz 2002, 418). Despite the publication of some detailed individual fortlet excavation reports in more recent decades, the *ORL* volumes still offer the most wide-ranging corpus of material relating to these outposts.

Another important legacy of the initial survey of the border works is the way that it was subdivided into fifteen sections or *Strecken* for study (Fig. 45). The divisions between them owe more to the existence of natural boundaries than any attempt to reconstruct spheres of command within the Roman



45 The *limes* was subdivided into fifteen individual stretches for study.

After: Baatz 1974

period. The provincial boundary between Upper Germany and Raetia, for example, falls within stretch 12. Establishing these divisions was instrumental to cataloguing the *limes* towers, which are identified by referencing the stretch in which they lie, followed by their number within it from the perspective of someone travelling from the Rhine towards the Danube. As such, the *Strecken* provide a convenient shorthand for identifying whereabouts on the frontier a particular tower lies. It is immediately apparent from consulting any map of the *limes* that its course can hardly be construed as an attempt to take the most direct route between the Rhine and Danube, highlighting that it was not purely a line of convenience and that other factors were in play. The near-straight stretch of Antonine ‘outer *limes*’ offers an intriguing contrast to this, however, as it is not far off taking the most direct route from the fort in Upper Germany at Walldürn to the provincial border with Raetia. Providing an itinerary of the general terrain traversed by the frontier *Strecken* also illuminates the variety of landscapes divided by the *limites*.

From its terminus on the Rhine, the Upper German *limes* negotiates the high ground and steep valleys of the western fringe of the Westerwald mountains in stretch 1, before joining and following the Taunus ridge in stretches 2 and 3. The border works subsequently descend into the fertile valley of the Wetter, which was encircled by stretches 4 and 5. Next, the course of the *limes* intersects with the River Main, which forms stretch 6.

During the Hadrianic and early Antonine period, seemingly before an artificial linear barrier was erected in Raetia, after parting from the Main, the *limes* ascended once more to cross the Odenwald range and thereby join the River Neckar at Wimpfen, representing stretches 10 and 11. Stretch 11 ended at Köngen fort, on the Neckar, but an epilogue to this sequence is provided by the so-called *Sibyllenspur*. This comprises a pair of ditches and palisade, supervised by a fortlet at Dettingen, which block the Lauter valley and run in the direction of the provincial border and the fort at Donnstetten; a component of the Raetian Alb *limes* (Fig. 43). Ceramics date the *Sibyllenspur* to the early second century, suggesting it constitutes an attempt to complete the early frontier circuit in Germania Superior (Planck 1982). The border works between the Odenwald and the middle Neckar were superseded when the frontier was advanced 20–30km to the east in the late Antonine period, creating the ‘outer *limes*’, which is designated stretches 7–9. The backbone of this is the 80km-long, near-straight stretch of palisade running from Walldürn to Welzheim. The outer *limes* intersects with the new Raetian linear barrier in stretch 12. From there, the Raetian *limes* crosses broken country comprising high ground, lowland, and valleys before finally descending to the bank of the Danube at the end of stretch 15.

INCREMENTAL EXCLUSION

What we now think of as the Upper German and Raetian *limes* developed out of various systems over a period of more than half a century. When seeking to chart the origins of these frontiers, the trend in recent decades has been for the start date of its core components to be pushed later. As we have seen (p. 57), the earliest elements of what would become the *limes* in the Westerwald and along the Taunus ridge were originally dated to Emperor Domitian’s Chattan wars of AD 81–85. This narrative was first challenged by a reconsideration of the *sigillata* from the fortlets, which indicated a foundation in the AD 90s, rather than 80s (Pferdehirt 1986). Analysis by Kortüm of the numismatic and stamped tile assemblages from the forts lying immediately to the rear of the *limes* subsequently pushed this date even later, when he concluded that ‘coin finds indicate a date between AD 105–115 for the beginning of permanent installations on the Upper German and Raetian *limes*’ (Kortüm 1998, 51). Although Kortüm acknowledged that dating these forts was not the same as dating the tower cordon, he contended that they are ‘likely to have been contemporary’ and the early years of Trajan’s reign are now widely viewed as the genesis of a formal Upper German *limes*. How secure this conclusion is remains to be seen, especially as dendrochronological dates from the palisade in Raetia have prompted the explicit observation that ‘fort dates cannot be used to date the *limes*’ (Sommer 2011, 175). Indeed, applying the

dating method used for the Raetian outposts to the Upper German *limes* would produce a Hadrianic origin for its fortlets and towers, emphasising the critical importance of selecting which dating proxy to employ. Despite this disparity, a Trajanic date for the first appearance of towers and fortlets on the Upper German *limes* will be followed here. Even so, while the developed *limes* outpost cordon is unlikely to predate the forts, there is no reason for it to be directly contemporary with their construction.

One question that is explicitly left unanswered by Kortüm's analysis of the coin evidence is when the earliest frontier fortlets were founded. Although he believes that *sigillata* cannot be used to prove an origin in the first century AD, Kortüm concedes that the chronological range of the fortlets is 'speculative' and that they 'could be the product of an earlier *limes* phase' (Kortüm 1998, 52). This caution is vindicated by the Roman military's proven willingness to found fortlets at considerable distances from the nearest known source of reinforcements. On this basis, the absence of forts in immediate support does not negate the possibility that fortlets were used to secure key locations along the fringes of Roman territory prior to the establishment of a formal border system. That local measures were in place prior to the Trajanic period is indicated by the two fortlets and possible stretch of linear barrier at Hanau-Mittelbuchen in the eastern Wetterau. The two fortlets have been tentatively dated to the AD 80s or 90s, while the long, linear ditch seems to be slightly later and contained a tile with a stamp that cannot have been struck until after AD 97 (Reuter 2004, 104–106). The presence of fortlets seemingly articulated with a length of linear barrier suggests that close-control measures existed from an earlier date in at least parts of the Wetterau and that outposts were being used to secure advanced positions.

The Saalburg pass over the Taunus ridge in stretch 3 provides an opportunity to tease out the relationship between forts and fortlets along the line of the Upper German *limes*. Today, this natural corridor is most famous for its auxiliary fort, which was partially reconstructed under the auspices of Kaiser Wilhelm II. This was only the latest of four possible military posts within the pass, though. The other fortifications comprise two small turf and timber enclosures, and a larger fortification, which is usually referred to as a Numerus fort, but could also be a large fortlet. The auxiliary fort overlies and therefore clearly replaced the putative Numerus fort, but the relative chronologies of the two smaller enclosures are less certain. The most northerly of the pair features both a footprint and defences that are unconventional in character. It is often judged to be the earliest Roman fortification in the pass, and a foundation date in the immediate aftermath of the Chattan wars or even during Vespasian's reign has been mooted (Schallmayer 1997, 108; Dobat 2009, 41; Reuter and Thiel 2015, 89). Given the unorthodox nature of this site, though, it is legitimate to wonder whether it was a Roman military fortification at all.

The other small enclosure constructed within the Saalburg pass is readily identifiable as a fortlet with an internal area of c. 323m². Kortüm notes that it was laid out on the same alignment as the potential Numerus fort, and suggests that the fortlet had a 'later or contemporary date' (Kortüm 1998, 52). Nevertheless, it is difficult to see what advantage this arrangement would deliver, unless it is assumed that the fortlet garrison was engaged in a wholly discrete duty. Administering and extracting customs duty from cross-border trade might be viewed as such a role. As we have seen, though, what evidence there is implies that this task was not ordinarily undertaken by fortlet garrisons. Instead, it seems more probable that the larger 'Numerus fort' replaced the earlier fortlet when it was decided that the pass merited a larger garrison. Some support for this can be derived from the defences of the small fortlet, which include a double ditch and palisade, making them unusually substantial for a German frontier fortlet. This casts some doubt on the proposition that it was originally founded only 100m from reinforcements. The importance of the Saalburg pass and the longstanding use of fortlets to control such features, makes it entirely possible that this installation predates the formal *limes* cordon. It is perhaps more likely, though, that the fortlet is another manifestation of the Roman army's preference for bringing key locations along a planned frontier line under direct control as soon as possible. Kortüm (1998, 56) dates the Saalburg 'Numerus fort' to c. AD 115, which leaves a window of over a decade in which the fortlet could have been founded as a priority component of a Trajanic border system.

The Trajanic border in the Odenwald, stretch 10, displays some affinities with techniques to safeguard highways (Thiel 2009, 139–141). This 70km length of *limes* effectively serves to block the isthmus between the Rivers Main and Neckar, which represent stretches 6 and 11 of the pre-Antonine frontier. Much like the rivers themselves, though, the Odenwald cordon seems to have served as both a highway that united and a barrier that divided. Unlike the nascent frontier works in the Westerwald, Taunus, and Wetterau, the backbone of the Odenwald system was provided by a formal Roman road. This Odenwald highway served to link the two rivers, and expedite movement between them (Thiel 2009). Although the northern stretch of the road closely follows the sinuous line of the high Odenwald ridge, the less severe topography to the south allowed the road to pursue a more direct – though still pragmatic – course through the landscape. The Trajanic road is believed to have been overseen by timber forts and towers, with the latter, on the strength of tower 10/8, enclosed within irregular palisade enclosures (Thiel 2009, 136). Curiously, the compound at tower 10/8 shares some similarities with the irregular enclosure in the Saalburg pass, perhaps suggesting that they are both earlier, non-military features. Several passes cross the line of both the road and the natural ridge in the high Odenwald, and during the Antonine period stone

fortlets controlled these intersections. It is probable that these masonry installations had as yet undetected turf precursors. The Odenwald line has been compared to the Antonine Wall (Thiel 2009, 139–141), but the Gask ridge, Stanegate, and Stainmore pass configurations also present parallels. Anchoring the Odenwald road into the border measures along the Main and Neckar does, though, highlight that these latter British systems are seemingly restricted to isolated lengths of highway.

In Raetia, Trajan is now credited with establishing the first forts north of the Danube in the Swabian and Franconian Alb. This advance finally rendered the line of control established along the rearwards stretch of river in the first century AD redundant (see p. 42), but the character of the new border measures appears conspicuously different from both this precursor, and the contemporary controls imposed in Upper Germany. Rather than implementing outpost cordons or using small detachments to tighten control of a *de facto* border, the Trajanic configuration north of the Danube appears restricted to a loose chain of forts within the Alb (Sommer 2015a, 18). It is a remarkable divergence, not least because it implies considerable confidence that groups finding that their movement west was impeded by the new border cordon in Germania Superior would not turn south instead. The flurry of fort construction in both Raetia and Germania Superior, and the apparent establishment of outpost cordons in the latter province, should not be mistaken for a signal that Trajan considered these regions to be a military priority. On the contrary, the emperor appears to have been addressing border security to compensate for siphoning off large numbers of soldiers to fight in his Dacian wars (Reuter and Thiel 2015, 31). This offers a potential parallel with the situation in Britain. Although the early years of Trajan's reign see advance in Raetia and retreat in Britain, in both cases these measures served as a means of redeploying to a more sustainable setting.

Building a Barrier

A celebrated passage in the *Historia Augusta* credits Hadrian with installing a linear barrier, albeit in an undisclosed region. The text states that 'in many places where the barbarians were divided off not by rivers, but by *limites*, he separated them from us with large stakes sunk deep into the ground and fastened together in the manner of a palisade' (*Hadrian* 12, 6). This description dovetails with the physical vestiges of the barrier in Upper Germany and Raetia so perfectly that it was long assumed that these were the palisades in question. Although dendrochronological dates have decisively severed this connection in Raetia, they have also confirmed it in Upper Germany. One unexpected implication of felling dates from the winter of AD 119/120 from Marköbel, stretch 5, is that work on the new frontier began prior to Hadrian's

visit in AD 121, rather than in its aftermath as had previously been assumed (Schallmayer 2003, 12–16). Instead of the emperor devising a frontier system after assessing the situation on the ground, it seems that Hadrian inspected a work in progress. As in Britain, Hadrian did not devise the Upper German frontier system in a vacuum; instead his palisade was bolted onto existing, Trajanic measures. Indeed, if a developed tower cordon really did already exist in Upper Germany, the close relationship between these outposts and the palisade implies that its course was all but fixed. In various places, particularly the Wetterau, lengths of a less robust border fence known as the *Flechtwerkzaun* were even constructed prior to the Hadrianic palisade. Remarkably, Hadrian's contribution in Raetia seems to consist of no more than a few additional auxiliary and Numerus forts in the Franconian Alb.

The earliest certain examples of outposts being either built or rebuilt in stone come from the Odenwald, stretch 10, and are dated by inscriptions to the AD 140s, early during the reign of Hadrian's successor, Antoninus Pius (Fabricius 1926, 104; Baatz 1976, 25–28). Although only one of the fortlets can be dated through epigraphy, six stone fortlets are known on the Odenwald line, and all of them were presumably founded before the subsequent Antonine advance to the outer *limes*. As numerous Odenwald fortlets and towers have yielded a unique assemblage of stone architectural elements, including sculpture, bevelled cornices, dwarf pillars, and rectangular and half-cylindrical capstones, it seems likely that they were products of a single building initiative in the AD 140s. The conspicuous absence of such architectural embellishment in outposts elsewhere along the *limes* has prompted the intriguing suggestion that these Odenwald posts were abnormally elaborate in order to command a sufficient impression on dignitaries and civilians travelling along the Roman road (Thiel 2009, 140). If so, this effort can be perceived as a measure to reassure provincials rather than intimidate any enemy. When stone outposts began to be constructed elsewhere along the Upper German frontier is less clear, but there are signs that masonry installations start to appear around the mid second century.

Despite the care lavished on the appearance of the masonry outposts in the Odenwald, their occupation proved to be comparatively – and surely unexpectedly – fleeting. As late as AD 158 the garrison of the fort at Elztal-Neckarburken were renovating their bathhouse, but shortly afterwards the Odenwald and Neckar stretches of the *limes* were abandoned and the frontier was advanced approximately 30km to the east. Work on the new stretches, numbers 10 and 11, began swiftly, with dendrochronological dates from the outer *limes* indicating that construction work was underway by AD 161 (Reuter and Thiel 2015, 35–37). Similar dates from Raetia reveal that work on a palisade possibly commenced in the winter of AD 159/160 and concluded c. AD 164/165, sheathing this province within an artificial linear barrier for the

first time (Czysz and Herzig 2008, 193). The timber towers associated with the Raetian border cannot be dated directly, but unlike Upper Germany, where the origin of the towers is inferred from the foundation date of the forts, in Raetia the palisade is used to provide a proxy for the erection of these outposts. The earlier forts to the rear of the central portion of the new Raetian palisade were still influential, though. Just as on Hadrian's Wall, the course of the border cordon appears to have been surveyed so that there was a line of sight back to the forts (Sommer 2011, 21). The late Antonine adjustment to the frontiers is often linked to the desire to incorporate fertile land to the east of the Neckar within the border (Thiel 2008, 85), but it also allowed the Raetian and Upper German linear barriers to intersect. For the first time, we can correctly refer to the Upper German and Raetian *limites* as conjoined entities.

This surge of activity late in Pius's reign is particularly intriguing alongside the indications from Britain that Hadrian's Wall was being readied for reoccupation – and the Antonine Wall presumably therefore readied for abandonment – by AD 158. Sommer has linked these sudden changes with the growing influence of Marcus Aurelius. Indeed, the Raetian *limes* may even feature in the opening scene on the Column of Marcus Aurelius, graphically conveying the message that the new emperor had secured the border with towers and a palisade before engaging in the Marcomannic wars (Sommer 2015b, 29). The palisade itself probably stood about 3m high on both the Upper German and Raetian *limites*. It has been argued that 'one person crossing the walls would certainly not be impeded long enough for the nearest tower detachment to stop him in the very act' (Thiel 2008, 85). Yet crossing unaided a 3m-high obstacle is not easy, especially if you are encumbered with loot. It is reasonable to infer that the combination of a palisade with towers and, in certain areas, fortlets, would have been an effective means of deterring or detecting and destroying illicit ingress (Thiel 2008, 85–89). One curiosity concerning the palisade posts in Marköbel is that they were never replaced. If this is true of the Upper German palisade – and indeed the Raetian one – more widely it raises the question of what happened after the timbers decayed.

The maximum lifespan of the oak posts is believed to lie in the region of fifty to sixty years. Along the outer *limes* and in Raetia this would allow the Antonine palisade to be standing into the early decades of the third century. At Marköbel, however, the palisade would have needed replacing by c. AD 180 at the latest. This prompted the suggestion that an additional linear barrier in Upper Germany was cut at that time to replace the degraded palisade (Schallmayer 2003, 16–19). The new earthwork featured a c. 6m wide and 2m deep ditch with an unrevetted upcast mound piled up behind it. The ditch shadows the course of the palisade, and was dug to its rear. It was once assumed that this ditch co-existed with the palisade, prompting the name '*Pfahlgraben*', literally 'palisade ditch'. Although this term has now been dropped, there are stretches

where a course adjustment created a double line of barrier, both of which feature lengths of *Graben* and *Pfahl*. This implies a period of overlap between these two types of barrier in some places (Baatz 2008, 102), even though such a superimposition appears at best redundant, and at worst counterproductive. To complicate matters further, what little dating evidence is available for the *Graben* hints at it being dug in the early third century. This raises the question of whether stretches of palisade along the Upper German border simply rotted away and were not replaced for several decades (Reuter and Thiel 2015, 93). Naturally, there is no reason why the *Graben* should have been cut at the same time throughout Upper Germany.

Recent work has disclosed the date of the replacement of the Raetian palisade. This new linear barrier is traditionally known as the *Teufelmauer*, or 'devil's wall', and it comprises a masonry wall c. 1.2 m wide that runs for about 167km from the probable provincial border with Upper Germany to the Danube. Dendrochronological dates from timbers supporting the *Teufelmauer* as it crosses boggy ground near Dambach reveal they were felled in the winter of AD 206/207 (Czysz et al. 2009, 84). As well as coinciding with the estimated fifty-year lifespan of the timber palisade, this date assigns the erection of the stone wall to the later years of Septimius Severus. It is possible, then, that like Marcus Aurelius before him, Severus sought to put the border works in order before embarking on a campaign, although in this case the fighting took place in Britain, to the north of Hadrian's Wall.

Assessing the volume of rubble from the collapsed *Teufelmauer* indicates an original height of 2.5–3m, suggesting that it served as a direct successor to the palisade by presenting a similar, though more durable, obstacle (Sommer and Kerscher 2009, 88; Thiel 2008, 89). The course of the wall was dictated by the location of the towers, which, uniquely on the Upper German and Raetian *limites*, were incorporated within the course of the linear barrier. This implies that the towers had already been rebuilt in stone, a supposition that is seemingly borne out by indications from a LiDAR survey that the masonry fortlet at Raitenbuch had quarry pits for the construction of the *Teufelmauer* sunk within its perimeter (Sommer 2011, 169). If so, at least one stone fortlet had been both constructed and abandoned prior to the erection of the new barrier. Elsewhere, the fortlet at Hinterer Schlossbuck produced a brooch consistent with a date in the second quarter of the third century AD, indicating that some fortlets co-existed with the *Teufelmauer* (Ramstetter 2015a, 107).

As it transpired, there is a good chance that the *Teufelmauer* did not serve as a border barrier for a longer span than its timber precursor, and its eastern stretch may even have been abandoned within a decade or so. This assessment is based on the development of what appears to be either a fortified road or a replacement border running between the forts at Theilenhofen and either Pfünz or Kösching, to the south of the *Teufelmauer*. If so, this new border

Box 7: ‘in der Harlach’

The installation at ‘in der Harlach’ seemingly represents a radical break from every other fortlet known along the *limites*, and it has even been questioned whether it is a military post at all (Fig. 8). The suggestion that it was founded by troops transferred from North Africa in the AD 240s would help explain the unusual design, as it appears closer to models used in that region (Sommer 2015a, 24; Ramstetter 2015b, 131). While this offers a neat explanation for the style of the fortification, it is important not to overplay the differences from local fortlet templates.

Although the right-angle corners of the perimeter wall are indeed redolent of North African models, this is also the most common rampart configuration in masonry fortlets along the Raetian *limites* (Fig. 44). A handful of examples are also known along the Upper German border (Bender 2015, 85). Little is known of the internal buildings erected in Raetian *limites* fortlets, but geophysical survey of the fortlet at Hienheim, stretch 15, has revealed casemate structures there, with the buildings set in the U-shape frequently employed inside small fortlets in Continental Europe (Faßbinder 2008, 169; Hüdepohl 2015, 181).

The layout of the 1,024m² interior of ‘in der Harlach’ bears a striking similarity to such U-shaped buildings (Fig. 8). Parallels include a possible shrine axially aligned on the entrance, two rows of probable barrack accommodation facing each other across the internal yard, a larger suite of rooms for a *curator*, and a possible day room adjacent to the entrance. On this basis, ‘in der Harlach’ could be seen as a fusion between the Raetian fashion for masonry fortlet ramparts with right-angled corners, and a popular, local, internal building style. If so, rather than aping an overseas archetype, ‘in der Harlach’ would represent the ultimate expression of an ingenious and predominantly European approach to ordering fortlet interiors that had developed over at least two centuries.

provided a far looser line of control, comprising a highway, augmented with a series of widely spaced stone towers and the intriguing and unfortunately undated installation known as ‘in der Harlach’ at Burgsalach (see Box 7). The impetus for this reconfiguration was once linked to manpower shortages after Caracalla’s campaign against the Alamanni in AD 213, but more recently it has been attributed to the redeployment of soldiers from northern Africa to Raetia under Gordian III in c. AD 240 (Sommer 2011, 176–177; Sommer 2015a, 24). Any such reworking of the border did not endure for long. The collapse of the land frontier in this province is currently dated to c. AD 254, when a devastating Germanic assault overwhelmed Roman garrisons that had been crippled by Valerian’s withdrawal of soldiers to support his seizure of imperial power.

The Raetian *limites* outposts were seemingly never reinstated, and instead by the reign of Probus (AD 276–282), new fortifications were being installed along the Danube (Sommer 2015a, 25). In Upper Germany the *limites* endured

for longer, and later coins have been recovered from frontier installations (Reuter and Thiel 2015, 189). Both a coin minted between AD 266 and mid 267, and the wider finds assemblage from the fortlet at Haselburg, stretch 7, suggest that the installation was still home to a regular military garrison at this date (Fleer 2011, 184–185). The coin issues from the *limes* posts indicate that the overrunning of the Upper German land frontier probably occurred against the backdrop of the succession of a huge swathe of Roman territory. This break-away confederation is known as the Gallic Empire, and it subsumed Gaul, Britain, the Germanies, Spain, and possibly Raetia. It was established in AD 260 by Marcus Postumus, commander of the lower Rhine forces, and remained independent after his assassination in 269, but was returned to the official imperial fold by Aurelian in 274 (Mattingly 2006, 226). Precisely when the withdrawal from the *limes* to the Rhine was enacted is still unclear. It is widely assumed that Roman control of the territory beyond the river had been relinquished by AD 275, but some forts have produced finds that suggest they were reoccupied and held until 290 or later (Heeren 2016).

OUTPOST USE

As we have seen, in Britain fortlets are the frontier outposts that have excited the greatest level of specialist attention, partially because of their gateways, and partially because secure examples of Antonine Wall turrets remain elusive. On the German *limes* the situation is reversed, and for many years the fortlets seem to have been judged superfluous to the smooth running of the frontiers. These installations were excised altogether from the classic phase diagrams charting the evolution of the border works and a putative depiction of how frontier forces might repel a modest assault (see Baatz 1974, 39–45). This relative invisibility has been reinforced by a modern reticence to reconstruct the fortlets along the *limes* to their projected original specifications. Today, the German frontiers are studded with towers, portions of forts, and stretches of linear barrier that have been physically reconstructed with varying degrees of authenticity (Dobat 2015), but it was only in 2011 that a fortlet joined their ranks. This coincided with a heightened interest over the past fifteen years in what the fortlet garrisons achieved and how their presence should be interpreted.

To a degree, the traditionally lower profile of the fortlets is vindicated by their frequency. Unlike on Hadrian's Wall, where the ratio of milecastles to turrets is 1:2, on the German *limes* the relationship is closer to 1:10. Intriguingly, this appears more reminiscent of the elements of Hadrian's Wall that were probably prioritised during the construction programme. At least six milecastles, numbers 10, 14, 23, 27, 47, and 48, were seemingly fast-tracked for completion, while elsewhere it was often only the north curtain and,

presumably, gate tower that was prioritised (Symonds 2005, 77; Wilmott 2009, 198; Graafstal 2012, 131). These priority milecastles lay at highly irregular intervals and were positioned so as to control the major natural and artificial passages piercing the frontier line. Although this version of Hadrian's Wall was an ever-shifting work in progress, making the ratio of completed milecastles to turrets and gate towers impossible to calculate reliably, it seems probable that it was closer to, perhaps even greater than, that encountered on the German *limites*. If the postulated priority programme for Hadrian's Wall does provide a glimpse of how practical considerations influenced the construction schedule, it may be telling that the ratio of milecastles to turrets deemed initially appropriate to bring the frontier line under close control appears more in line with the overall approach employed on the German *limites*.

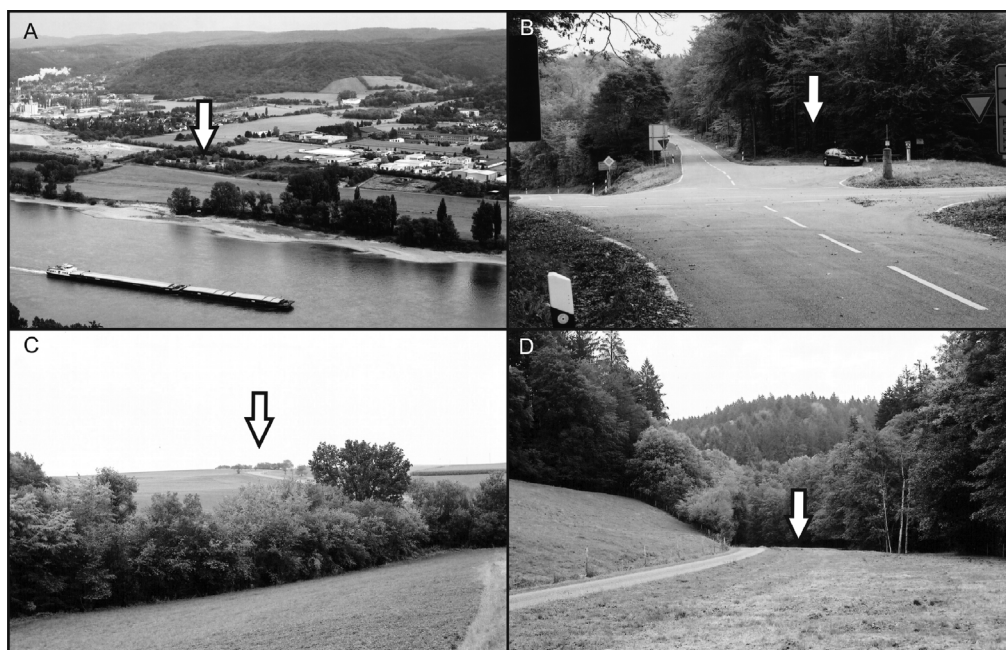
It is widely accepted that the principal role of the towers on the German *limites* was to provide a surveillance screen. Although the towers eschew the regular spacing on Hadrian's Wall, most of them still lie at a comparable distance of c. 500–600m apart and they appear to have been carefully positioned in order to permit observation along the entire course of the dryland stretches of frontier (Batz 1976, 47; Foglia 2014, 38). This configuration is convincingly regarded as a mechanism to detect illicit incursions across the linear barrier, a conclusion reinforced by the number of towers that command poor views over the approaches to the frontier, long swathes of which were probably shrouded under dense forest (Batz 1976, 47). The premium afforded to creating a comparatively weakly manned surveillance system matches the explanation advanced for the prioritisation of certain milecastle gate towers in Britain. What is more, implementing this capability could also be perceived as a priority in both Upper Germany and Raetia. If it is correct that the Upper German outpost cordon was initiated by Trajan, it was by default more pressing than the Hadrianic afterthought of a physical barrier. In Raetia, it has been argued that the 'surveillance lines were supplemented with one continuous palisade immediately after completion of the most urgently needed work, i.e. the erection of the towers and new forts' (Sommer 2011, 176). In all three cases, the only compelling explanation for such a desire is to curtail incursions as swiftly as possible by small groups that were more inclined to evade than engage professional soldiers.

At first sight, the behaviour of the fortlets is less readily explicable than the towers. Despite the myriad designs and highly variable distribution of the fortlets on the German *limites* appearing anomalous when compared to the British frontiers, it also accurately reflects the general rule of thumb for free-standing fortlet use established in the first century AD: they were founded where and when they were needed with a complement of internal buildings judged appropriate to support the garrison's intended duties. On the German *limites* it seems clear that some areas were particularly generously endowed

with fortlets, while others were largely devoid of them (Batz 2007, 13; Fig. 43). Such complexity once prompted the bleak assessment that ‘their distance from the auxiliary forts is so inconsistent’ that ‘the basis on which [they] were positioned can scarcely be guessed at’ (Fabricius 1936, 37–38). Considering the distribution of fortlets along the German *limites* reveals that they are restricted to the overland stretches and do not appear to have been judged necessary where the border shadowed the Main and Neckar rivers. Three zones where fortlets were particularly concentrated can be identified: in stretches 1 and 2, either side of where the river Lahn crosses the *limes*, encircling the Wetterau salient in stretch 4, and towards the eastern end of the Raetian *limes* in stretches 14 and 15. Elsewhere, there are a scatter of fortlets along the ‘inner’ and ‘outer’ *limes*, while the western half of the Raetian *limes* seems all but devoid of them. Although, as has been noted, an uncertain number of fortlets are likely to remain undetected, it is probably significant that by far the greatest known density of these outposts occurs in the Wetterau, which is also one of the stretches most denuded by modern agriculture.

Early attempts to understand how the fortlets were positioned led to suggestions that some were essentially ‘interval’ posts along stretches of frontier subdivided by prominent topographical features, while others, when considered alongside the forts, occurred at distances of c. 4.4km (Fabricius 1915, 56; Fabricius 1935, 39). More recently an interval of 4.5km between two of the small fortlets along the outer *limes* has been taken to signal ‘a more or less equal distance’ between the installations in that sector (Planck 1976, 424). These occasional hints of a broadly uniform interval may be a product of localised preferences for roughly evenly spaced fortlet garrisons, but if so, they are outweighed by the overall picture of irregularity. It has been plausibly proposed that some fortlets ‘lay on more at risk *limes* stretches’ (Thiel 2003–2004, 69) and it is noticeable that their numbers are highest in the region where hostilities erupted during Domitian’s Chattan wars. Indeed, the northern portion of the *limes*, essentially stretches 1–4, is one of the few places where Germanic settlement is known to have occurred in close proximity to the border works (Fleer 2011, 164–165). This settlement was concentrated along the reaches of the Lahn river directly north of the Wetterau. The passage of the Lahn across the *limes* also coincides with a concentration of fortlets in stretches 1 and 2. All of this points to fortlets being constructed in the areas where people might actually try to enter Roman territory. These installations were also carefully positioned within the landscape, often occupying the valley bottoms, false crests, and mountain passes favoured by freestanding fortlets (Fig. 46; Symonds 2009a, 961).

Away from the Lahn, long stretches of the *limites* appear to be several days travel from the nearest known Germanic settlements (Thiel 2008, 85). A second pocket of activity, though, occurs on the river Tauber, about



46 Upper German *limes* fortlet locations: (A) the location of Rehinbrohl fortlet adjacent to the Rhine, stretch 1; (B) Seizenbuche, controlling a mountain pass in the Odenwald, stretch 10; (C) the position of Haselburg, on a false crest dominating the skyline from the perspective of someone approaching from beyond the *limes*, stretch 7; (D) Hankertsmühle, blocking a narrow valley in stretch 9.

25km east of the upper portion of the outer *limes*, stretches 7 and 8. This has been linked to a set of larger fortlets, such as Haselburg, which enclosed c. 2000m² within its masonry rampart (Fleer 2011, 164–165). Further south along this line much smaller fortlets were constructed, including Rötelsee, which only had an internal area of c. 272m². It is conceivable that the group of fortlets along the eastern length of the Raetian *limes* also owes its presence to indigenous activity along a watercourse, as the outposts seem to be focused on the stretch where the river Altmühl crosses the border and runs to its rear, before flowing out of Roman territory once more. Assuming that the general absence of fortlets along the western portion of the Raetian *limes*, stretches 12 and 13, is real rather than merely apparent, it seems plausible to link this omission to low population levels in advance of the border. Currently, the nearest known settlement lies 60km distant (Sommer 2015c, 51), a factor that also helps explain why a physical artificial barrier was not considered necessary until late in the reign of Antoninus Pius. It is worth making two additional points about the extant distribution of fortlets along the *limites*. As has been noted, the majority of these outposts were built of masonry and so are likely to be mid second century or later in origin. As such, they belong to the developed system and so presumably reflect an informed response to local pressures. The second is that comparing the distribution of the towers and the fortlets seems to

confirm a division of labour that has been implied elsewhere: the towers were relatively evenly spread to provide observation and perhaps signal coverage, while the fortlets are concentrated in the areas where there are most likely to have been illicit crossings to contest.

Frontier Gates

An additional function that is frequently associated with fortlets on artificial borders is the need to control entrances through the linear barrier. Although this was integral to the original design of the milecastles and Antonine Wall fortlets in Britain, as the fortlets on the German *limites* were never physically anchored into the running barrier, it was naturally impossible for them to provide a portal in the same way. The degree to which these fortlets coincide with formal passages through the various border obstacles employed in Upper Germany and Raetia remains opaque, partially because such access points are often hard to detect. What is certain, is that the fortlet sites frequently occur at the intersection between the border works and natural corridors, such as river valleys and upland passes. On this basis, the argument that ‘fortlets often supervised *limes* crossings’ seems alluring (Fleer 2004, 88), but it can be countered with the observation that there is an ‘absence of provable *limes* crossings’ opposite the majority (Thiel 2003–2004, 73). A recent assessment of the known passages through the Raetian *limes* emphasised that fortlets have ‘no specific correspondence to wall crossings’ (Sommer 2015c, 50). There are also ample cases in both Upper Germany and Raetia where a tower was judged equal to overseeing gaps left in the barrier (Hodgson 2005b, 184; Sommer 2015c, 49). At first sight, both the rudimentary passages and use of tower-strength garrisons appear to be in stark contrast to the Hadrian’s Wall milecastles. Yet as many of the latter seem to have been brought into operation with barrack capacity for only eight or so soldiers – only twice the number frequently estimated for the towers on the *limites* – the overall difference in manpower may not have been great.

The only structure currently known on the German *limites* that offered a gateway comparable to a milecastle was erected at Dalkingen, stretch 12. Here, the ‘*limes* gate’ consisted, in its developed form, of a rectangular masonry building measuring c. 9m by 12.8m, which was physically immured within the *Teufelmauer* and most likely permitted passage through it (Plank 2014, 60–63; cf. Sommer 2015c, 43). Unlike the milecastles, though, the *limes* gate only contained two small rooms, creating the impression of control booths flanking a corridor penetrating the running barrier. The southern facade was later embellished with the addition of a magnificent triumphal arch complete with a bronze imperial statue, a flourish that has been attributed to Caracalla advancing through the gateway at the beginning of his campaign against the

Alamanni in AD 213 (Planck 2014, 82). Animal bones from the site indicate that people were stationed in the gate structure long enough to prepare food (Planck 2014, 88), but in general Dalkingen appears closer in style to the Knag Burn gateway on Hadrian's Wall (see p. 121) than the milecastles. This conclusion is reinforced by the discovery of a fortlet lying 30m south-east of Dalkingen (Bender 2015, 85). Despite the eventual grandeur of the gate building, it is worth stressing that at Dalkingen, too, the early access passages consisted of fenced-in corridors looping around a tower (Planck 2014, 68). Given the utilitarian nature of such gates, and the limited garrisons overseeing most of them, it seems likely that they were primarily intended for routine military activity (Sommer 2015c, 49–51).

LOCALISM

The pockets of distinct fortlet use that occur along the *limites* are manifest in numerous ways. We have already seen that their distribution was plausibly influenced by the presence or absence of indigenous groups living near the frontier line. Intriguingly, this is the only form of variation discernible in both the Upper German and Raetian fortlets, as the latter appear far more standardised in terms of both design and relationship to the linear barrier. The differing approaches to engaging with the topography in Upper Germany could be perceived as a consequence of the varying potential of the terrain that the frontier traverses. Along the eastern part of the Wetterau line in stretch 4, for instance, there is a preference for small fortlets to occupy natural knolls. This enhanced their garrison's surveillance capability, but could signify no more than felicitous local topography. The landscape in Raetia is hardly uniform, though, so opportunities for more divergent approaches do exist. Instead, the masonry Raetian fortlets are consistently positioned close to the linear barrier and display little interest in experimenting with more innovative ways to engage with the terrain.

One example of pioneering a different relationship with the running barrier is discernible along the Upper German outer *limes*. The division between large fortlets on its northern section and the smaller fortlets on the southern portion has already been noted. Although the erection of larger fortlets in the north could well be a response to Germanic groups living in the Tauber valley, it is noticeable that this arrangement replicates an inverted version of the arrangement on the earlier inner *limes*. There, small fortlets were concentrated along the northern length of the Odenwald line, while larger fortlets were founded to the south, stretch 10. This, in turn, may simply correspond with the lower density of traffic seeking to traverse the mountain passes compared to that moving across the more open country to the south. Regardless of the impetus for the division between larger and smaller fortlets on the outer *limes*, it is

apparent that they interact with the linear barrier in different ways. The smaller fortlets lie close to the border line, with distances of 25–50m recorded, while the larger fortlets were consistently positioned further to the rear, at distances of 87–290m. Although larger fortlets positioned more flexibly within the landscape would be appropriate along a more sensitive stretch of the border, the degree of difference between the fortlets on the northern and southern stretch of the outer *limes* does point to the existence of two contrasting conceptions of how best to position these installations.

The marked difference between the multiplicity of fortlet designs along the Upper German *limes* and the comparatively uniform installations founded in Raetia may be symptomatic of a wider difference between border policy in the two provinces. Little is known about turf fortlets in Raetia, and so it is currently unclear whether these were also standardised, or if the continuity of design only commenced with the implementation of the masonry models sometime before AD 207 (Fig. 44). Although the 167km length of the Raetian *limes* is still longer than Hadrian's Wall (unless the Cumbrian coast is factored in), it is perhaps conceivable that it was short enough to be centrally controlled by a prefect or governor in the manner proposed – hypothetically – for Hadrian's Wall. This might leave one individual responsible for signing off on fortlet design along the frontier. The range of terrain traversed by the Upper German *limes* would have made such a one-size-fits-all approach less effective, and the variety of fortlet designs and techniques arrayed along its length suggests greater discretion was granted to sector commanders responsible for shorter lengths of border. Their efforts were surely coordinated, though, and the relative durability of the stone fortlets implies that methods were revisited during periods of reconstruction rather than every time a 'sector commander' was replaced.

A MERCURIAL FRONTIER

The Upper German *limes* has something of a Jekyll and Hyde character. Long stretches of it move sinuously through the landscape, exploiting its nuances, while others cut dead straight across the terrain. A wide range of fortlets of different sizes and styles were founded along its course, and while most were founded within 50m of the frontier barrier, some lay hundreds of metres to the rear. Although these longer distances created a frontier strip that was wider and therefore commensurately harder to cross undetected, they also seem to emphasise that immediacy to the running barrier was not essential for at least some fortlet garrisons to execute their duties. In a number of cases, this flexibility was exploited in order to site the fortlets on the most promising terrain, but here too there was considerable variety concerning what this constituted. Some fortlets served as valley blockers, and sacrificed a wide

viewshed in order to control a natural passage leading across the frontier. In other cases, fortlets were founded on prominent knolls that commanded extensive views along the border strip. The *limes* towers also display different designs, but it is they that form the backbone of the control system. They are consistently positioned in close proximity to the linear barrier, and although the intervals between towers vary, they do not fluctuate wildly in a similar fashion to the fortlets. As the towers have convincingly been interpreted as a means to maintain surveillance along the course of the border, a clear division of labour between the fortlet and tower garrisons can be advanced. The towers primarily provided observation and deterrence – although it would not be surprising if some installations counted missile troops among their garrison – while the fortlets were frequently well positioned to intercept groups seeking to cross the frontier.

This pragmatic approach to fortlet use is the opposite of the technique pioneered on Hadrian's Wall. Although the use of towers is superficially more similar to the regularly spaced Hadrian's Wall turrets, in practice the greater spacing variation on the Upper German *limes* and the care with which the towers were used to oversee changes in the direction of the running barrier created a more effective surveillance system. All told, the responsive and opportunistic approach pursued in Upper Germany remains true to the general direction of travel signposted by outpost use in the first century AD (Symonds 2009a). By breaking with this, Hadrian's Wall created a more ordered, but less efficient frontier system, which was compromised by its relatively inflexibility in the face of awkward physical geography. As we have seen, measures seem to have been taken before construction of Hadrian's Wall was complete to soften the worst excesses of its spacing format. In this regard it is intriguing that the Raetian *limes* appears closer to a half-way house between the contrasting approaches showcased on the Upper German frontier and Hadrian's Wall. Although our limited knowledge of early turf fortlets along the running barrier would make generalisations about its initial late Antonine format hazardous, by the time that the masonry installations were constructed a general format seems to be in place. With the exception of Freimühle, which is probably a product of the Upper German and Raetian provincial boundary, the stone Raetian fortlets were built to a similar design, and display a comparable relationship to the linear barrier. The end result appears far more disciplined than the neighbouring frontier system, and in some regards is reminiscent of the 'best of both worlds' approach arguably discernible on the Antonine Wall. In one regard, though, both the Upper German and Raetian *limites* appear to remain true to the freestanding fortlet model: they were probably only built where they were actively needed.

The proposed 'priority' construction schedule for Hadrian's Wall seemingly fast-tracked for completion a version of the frontier that was closer in style to

the Upper German *limes*, implying that the latter may have paid closer attention to what was really needed to bring the border line under military control. Although the heightened flexibility apparent during the Narrow Wall phase of construction effectively nudged Hadrian's Wall in the direction of the Upper German approach, subsequent developments in the later second century further accentuated the differences between the two frontier systems. Although it is easy to overstate the loss of surveillance coverage occasioned by the junking of numerous Hadrian's Wall turrets (Foglia 2014, 42), and probably also milecastle gate towers, it seems certain that this development marks a step away from the use of elevated platforms for observation and, conceivably, missile troops. Despite indications that some towers on the Upper German frontier could have been replaced by small fortlets in the late second century (Thiel 2003–2004, 71), it seems most likely that the towers remained integral to border control measures on the *limes*. This is equally true of Raetia, where the early third-century *Teufelmauer* was positioned to incorporate the towers within its course.

There are many potential explanations for the differential development in Britain and Germany. One possibility is that by the late second century the region to the north of the central sector of Hadrian's Wall was so depopulated that the turret cordon was considered supernumerary. If so, though, it invites the question of why towers were raised in Raetia 60km from the nearest known populated area beyond the frontier. Alternatively, perhaps larger garrisons at longer intervals in the milecastles were ultimately considered better able to enforce movement controls on Hadrian's Wall. The continued reliance on towers along appreciable stretches of the Upper German and Raetian *limites* suggests that only extremely small-scale incursions were judged probable in those areas.

Another deviation between the British and German frontiers concerns the use of forts. The fort decision on Hadrian's Wall can convincingly be viewed as a way to enhance its assault and forward defence capability. This, in itself, emphasises that the milecastle and turret garrisons were primarily concerned with securing the border line, rather than undertaking meaningful operations beyond it. Although the distance between the German forts and the running barrier varied considerably, they do not seem as well configured for rapid, aggressive actions beyond the frontier. One plausible explanation for this difference is the gulf between indigenous population levels in the vicinity of the German and British frontiers. In Britain, the eastern and western sectors of Hadrian's Wall severed longstanding and populous agricultural communities, while even the central sector supported numerous small homesteads that are likely to have been occupied at around the time of the Roman conquest. The resulting impact on indigenous interests would have been substantial, and the probability of a backlash equally great.

If the prevailing view – that there were only two substantial populated areas in the vicinity of the German frontier, and one of them was c. 25km distant – is accurate, then the threat it posed to pre-existing lifestyles was correspondingly diminished. That indigenous population levels were factored into military decision making on the Upper German *limes* is all but confirmed by the concentration of fortlets in the Wetterau. It seems highly probable that seemingly anomalous features in Britain, such as a wall-walk, were a response to far higher indigenous population levels. In Germany, the heightened level of control a wall-walk offered was simply not considered proportionate (Symonds 2015c, 305). It is conceivable that this also explains the remarkable difference in the ratio of fortlets to towers. While in Germany the frontier fortlets could be concentrated in areas with the highest pre-existing population levels, this option was not available in Britain, where settlements – albeit of different size and varying numbers – existed close to the Wall along its entire course.

The frequency of local settlement in the vicinity of Hadrian's Wall could also explain the more extensive use of fortlets. If a surveillance system using towers was not considered sufficient in a populated area, then larger garrisons capable of neutralising incursions by modestly sized groups would be needed along the entire length of the border. The eye-catching use of fortlets on the Antonine Wall to plug blindspots in a fashion that would normally be appropriate to towers conveys a similar message. To put it another way, the manpower savings achievable in areas of Germany seemingly devoid of a settled local population where attempts to evade border controls would presumably be the exception rather than the rule could not be safely replicated in Britain. Quite possibly, then, the reason for the difference in scale between Hadrian's Wall and the German *limites* that Mommsen considered over a century ago is provided by the stark differences in the size of the local populations and their proximity to the borders. When that variable is filtered out, the seemingly universal focus on identifying and appropriately garrisoning areas where illicit incursions were a risk, despite the gulf between the specific techniques employed in Britain and Germany, implies these border systems were still calibrated to achieve the same goal.

PART 3

PROVINCIAL COLLAPSE

Although the outpost networks devised by the Roman army reached their apogee along the Empire's artificial frontier works, this is far from being the end of their story. We have already seen how, in the areas corresponding to modern Germany and the Netherlands, only a handful of early fortlets and towers are known to have been constructed away from the stretches of the Rhine and Danube that served as *de facto* borders. In Britain, far more extensive outpost systems were established as part of the process of pacifying certain regions. With the exception of the Antonine incursion into southern Scotland, though, these withered away once Hadrian's Wall was completed, suggesting the army enjoyed considerable success in achieving security to the south. By this measure, the frontiers were highly effective at establishing a line of control, beyond which sizable threats could be met in the field, and behind which small garrisons to counter low-intensity threats were scarcely needed. This situation changed rapidly in Germany during the late third century, following the implosion of the land *limites*. In Britain, two fortlets were established on the south-east coast during the third century, but it was seemingly not until the late fourth century that such posts were once again founded in appreciable numbers. The very need to garrison locations that had not required permanent military oversight for centuries, if ever, is one symptom of the changed circumstances facing Rome's provincial armies.

The soldiers manning these late Roman outposts were operating in a different world than their predecessors. Much scholarly ink has been spilt attempting to isolate the precise chronology, nature, and impact of the changes underway in the late Empire, but this vast topic remains a source of contention. At a prosaic level, behaviour that superficially seems highly relevant to the security situation, such as the growth of urban defences and a surge in hoarding, has proven capable of conflicting readings (see Johnson 1983, 245; Southern and Dixon 1996, 22; Gerrard 2013, 59–63; Ghey 2015, 57; Luttwak 2016, 152). These imponderables, though, are dwarfed by the litany of challenges that forced the Roman state to renew itself as it reaped the consequences of debased coinage, the rise of Sasanian Persia, increased 'barbarian' settlement within the frontiers, and the ever more lethal and capricious intrigues of imperial politics. The aftershocks from these events were manifest in many ways, including the split between the eastern and western empires, civil wars, and secessionist states, as well as changing

provincial boundaries, bureaucratic structures, taxation, and military restructuring and recruitment patterns. There is not scope to explore these processes here, but it is important to assess the changed nature of the Roman military.

By the beginning of the fourth century, the military had been reorganised into mobile field armies (*comitatenses*) and static frontier forces (*limitanei*). There is a tendency to view these border garrisons as somewhat inferior, but this stereotype is probably misleading (Elton 1996, 68; Heather 2005, 62; Collins 2012, 36–37). This notion of dedicated frontier guards expected to stand their ground is a significant departure from the units seemingly configured for future advance that many early borders originally coalesced around. Where these soldiers were drawn from is another source of debate, but it is probable that by the late period considerable use was made of local recruits, while treaties with some ‘barbarians’ granted land in frontier zones stipulated that they had to protect it (Southern and Dixon 1996, 47, 67). All told, the general picture is seemingly of occupation forces morphing into military communities of varying origins that were effectively being paid by the Roman state to defend their homeland (Collins 2012, 109–110; Luttwak 2016, 147). Although concrete figures are unavailable, the total number of Roman soldiers may have increased by as much as a third between the early third century and the mid fourth century (Heather 2005, 64). Any such surge was seemingly not matched by a greater eagerness to serve, and military recruitment appears to have increasingly relied on conscripts, with some electing to dodge the draft by cutting off their thumbs (Cameron 1993, 36; Ammianus 15, 12, 3). Some of the shortfall was made up by ‘barbarians’, who were either enlisted within regular army units, or fought as irregular federates (*foederati*). Little wonder, then, that one recent commentator was moved to observe that ‘barbarians weren’t what they used to be’ (Heather 2005, 71).

Despite the potential increase in the overall size of the Roman military, the strength of individual fort garrisons appears to have been savagely cut (Southern and Dixon 1996, 30). Throughout much of the Empire this is reflected by the erection of small, heavily fortified ‘reduced forts’. The redoubt inserted within the earlier auxiliary fort at Eining, Bavaria, is a striking example of this diminution (Ramstetter 2015c, 174–175; Fig. 48). Measuring 1,505m² internally, it falls squarely within the expected size range of early fortlets. To complicate matters further, applying the core distinction between forts and fortlets adopted by this study becomes significantly more problematic, as *principia* adhering to the classic template no longer seem to be constructed. A suite of rooms within the redoubt at Eining has been nominated as a combined headquarters building and commanding officer’s house (Ramstetter 2015c, 175), and comparable structures have been claimed elsewhere (e.g. Mackensen 1999, 238; Völling 2000, 38). There is no escaping that the

degree of grey area when attempting to distinguish between forts and fortlets increases significantly during this period (Southern and Dixon 1996, 133), reducing it to a judgement call rather than an exact science. A further factor is the growth of hilltop refuges and private fortifications, as civil communities took measures to ensure their safety. Unsurprisingly, these defensible structures frequently drew inspiration from military models, resulting in the blurring between forts and fortlets being compounded by a blurring between public and private measures.

Against this backdrop of political chaos, economic insecurity, and a radical overhaul of established military fortification types, there appears to be a comforting familiarity about the installation cordons that were founded during this period. Whether these were devised to meet local disruption, or as part of a wider strategy to achieve border security through 'defence in depth' is, however, disputed. The concept of 'defence in depth' was outlined by Luttwak (2016), who presents it as the rearward alternative to the forward defence practised along frontiers in previous centuries. He associates the emergence of small installations behind the border with a Roman military machine that was no longer capable of routinely defeating substantial threats beyond the border. In effect, this created a wide conflict zone within Roman territory, where heavily fortified posts, walled towns, and mobile field armies acted in conjunction to defeat large groups that had penetrated the frontier (Luttwak 2016, 149–166). The suggestion that this was a conscious overarching strategy has proven highly controversial, but the main issue for the purposes of this study is whether the new installations resembling outposts acted in a similar fashion to their predecessors. If so, they tell us more about low-intensity threats than new approaches to foiling full-scale invasions. On this score, it should be stressed that while some outpost-style fortifications in the late period were indeed formidable masonry edifices incorporating cutting-edge defensive architecture, others featured turf-and-timber ramparts that would not be out of place in earlier centuries. Despite the seismic events reshaping the Roman world during this period, such installations appear intelligible as a logical progression from previous centuries rather than a radical adaptation to less forgiving circumstances. Chapters 7 and 8 consider a selection of cases studies along the road system, coastlines, and riverbanks, which illuminate the evolving nature of the threat.

CHAPTER SEVEN

LATE HIGHWAYS

Discussion of early outpost systems along the Roman road network began by assessing just how revolutionary these highways truly were. By the late period, an equally pressing question is how critical these thoroughfares remained to military activity. Such a question may seem surprising, but an increased regionalisation of late frontier zones is apparent from various details in the surviving written records, including the increased use of locally levied recruits implied by a law in place by AD 313 making military service hereditary (see Southern and Dixon 1996, 67–70). The restructuring of the Roman tax system with the advent of the *annona militaris*, which supplied the military with commodities through payment in kind, codified a similar approach to provisioning the frontier garrisons by placing much of the burden on their hinterland (Collins 2015, 28). Whether these official initiatives unleashed or simply acknowledged the emergence of an increasingly insular dynamic within the border zones is unclear, but either scenario hints at reduced intra-regional connectivity.

Significant changes in military procurement can also be detected in the archaeological record. A clear indication of the shifting scale and complexity of supply lines is apparent in the material culture, and particularly the pottery, used on Hadrian's Wall. Second-century Wall garrisons were issued with pottery that had been transported from southern Britain and Continental Europe. By the fourth century, the ceramics reaching the soldiery were dominated by vessels fired in the Yorkshire kilns, on the southern fringe of

the frontier zone. Only small quantities of amphorae continued to be shipped from overseas (Bidwell and Croom 2010). Local(ish) manufacture of many other commodities essential to sustaining military activity is also apparent, although for most of the period coinage, which was issued by an official mint, continued to be conveyed from overseas (Collins and Allason-Jones 2010). South of the Danube, military equipment destined for the frontier garrisons was being manufactured in northern Italy, and then transported across the Alpine passes (Mackensen 1999, 239). Clearly, local road links remained essential to these procurement patterns, but was the wider network still required to stitch together an increasingly fragmented Empire?

Three factors indicate that the highway network remained important into the late period and, in some instances, beyond. The original construction of these metalled highways created an economic stimulus that drew people to the roadside. These thoroughfares provided the life-support for a multitude of new, small settlements, which relied on a steady stream of traffic in order to prosper. Although circumstances vary from site to site and province to province, the continued vitality of numerous such settlements into the late period suggests that there was still money to be made from through-traffic. Even more compellingly, many of the roads in Britain, such as Dere Street and the Stanegate, are known by their post-Roman names. The rapidity with which vegetation colonises even modern tarmac once it is left untended emphasises that this was not a consequence of the roads being reused after a long period of obsolescence. Instead, the simplest explanation for the survival of these highways is that they remained in regular use (Bishop 2014, 69). Additionally, the willingness of the provincial armies to invest resources in establishing new garrisons along stretches of the network signals its enduring value (see von Petrikovits 1971, 188; Johnson 1983, 155; Mackensen 1999, 203). Three out-post cordons are used to illuminate late security measures along roads: the hinterland of Cologne following the collapse of the Upper German *limes*; a stretch of fortified road along the Danube–Iller–Rhine *limes*; and the Stainmore pass. Before considering these, we examine what the third-century *ostraca* from the *praesidium* at Didymoi in Egyptian Eastern Desert imply about how its garrisons' roles had evolved.

DESERT DEALS

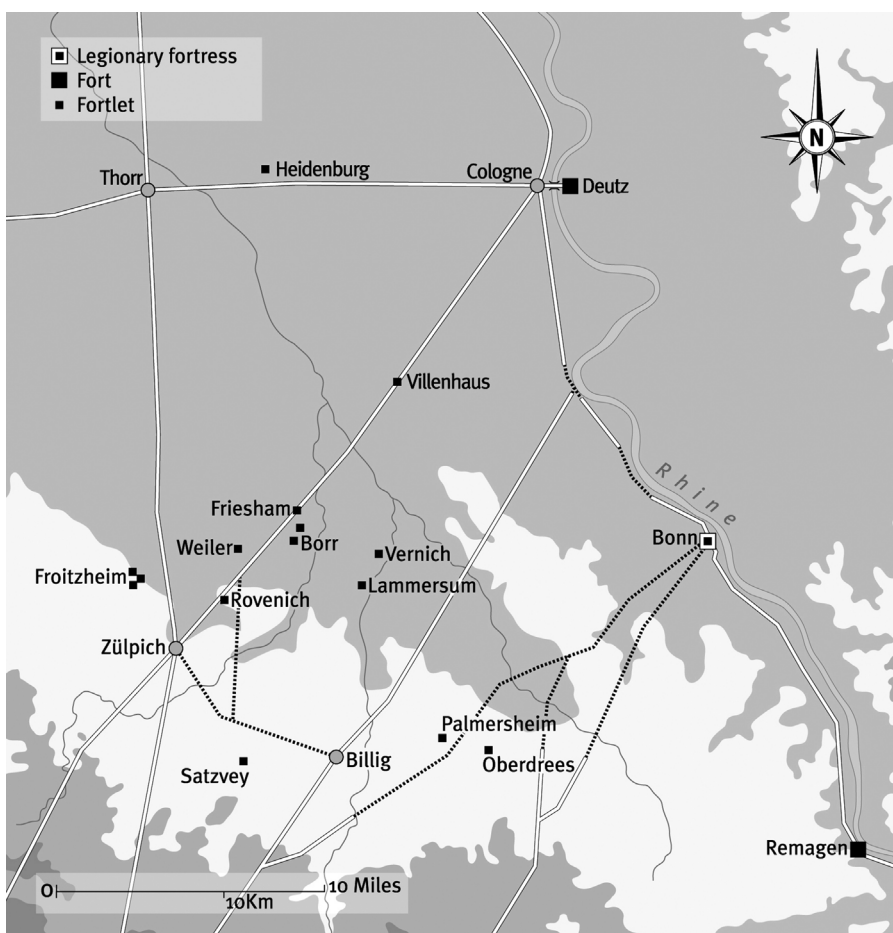
Few of the published *ostraca* can be dated with certainty to the third century, and none at all to the fourth century. Although this leaves a dearth of primary-source documents to flesh out the archaeological evidence elsewhere, it is intriguing that a shift in the relationship between the Roman army and local 'barbarians' appears discernible, with a handful of later reports telling tales of 'barbarian' abuses and recording foodstuffs being doled out to them. In the

former instance, one Eukylistros fled back to the fortlet after ‘Lekoun, who came down with the barbarians, beat us with clubs, finding us alone...’ (*O.Did.* 44). A late-second- or early third-century *ostrakon* details a more consensual transaction: ‘Mageiren, dekanos, came to me, with five barbarians, sent by Barait, Deputy Chief barbarian. I gave them one *kolophonion* [a vessel frequently holding wine] and 12 pairs of rolls. . .’ (*O.Did.* 41). This document makes it clear both that the *praesidia* garrisons were in communication with a powerful local leader, and that he was able to draw provisions from Roman forces. What this individual offered in return is unclear, but suggestions include his warriors being used as a substitute for Roman soldiers to assist a manpower drawdown, or a non-aggression pact (Cuvigny 2012b, 106–108). Either way, such reports are a far cry from the aggressive military responses to ‘barbarian’ activity recorded in the second century.

It would be hazardous to read too much into a small number of texts from a single site, especially as the corpus includes an occurrence of a more recognisable outpost garrison duty. A report discarded between c. 220–250 AD, which was sent to a fortlet *curator* from his counterpart at a neighbouring station states ‘I inform you that four barbarians, three children, nine camels, and four donkeys came down, so that you can inform the prefect. . .’ (*O.Did.* 46). As well as highlighting that regular communication between the outposts continued, monitoring movement was presumably a feature of the garrisons’ second-century duties. Even so, despatching surveillance reports about traffic, rather than checking passes, could suggest that military control over travellers on the road had slackened. All told, it is tempting to see the loss of initiative – or at least reduced capability for unilateral action – that striking deals with local warlords implies as foreshadowing the Roman military machine’s heightened reliance on ‘barbarians’ during the late period.

THE ZÜLPICH NEXUS

Numerous fortifications were established in the hinterland of Cologne during the second half of the third century AD, and these installations appear relevant to perceptions of a ‘defence in depth’ strategy (Fig. 47). Cologne was the provincial capital of *Germania Inferior* and a major transport hub, providing road and river access to the Rhine garrisons, and intra-provincial overland links. By far the best-known sequence of fortifications lay along the major highway from Cologne to Amiens. These installations extended at least as far as Bavay, which lay at the centre of a web of roads stretching throughout north-east Gaul. The road crosses a belt of fertile loess soils, which was home to a concentration of villa estates producing the grain vital for feeding the lower Rhine garrisons (Roymans and Derks 2011, 16–19). As such, disruption along the Cologne–Bavay highway would not only threaten rapid overland passage

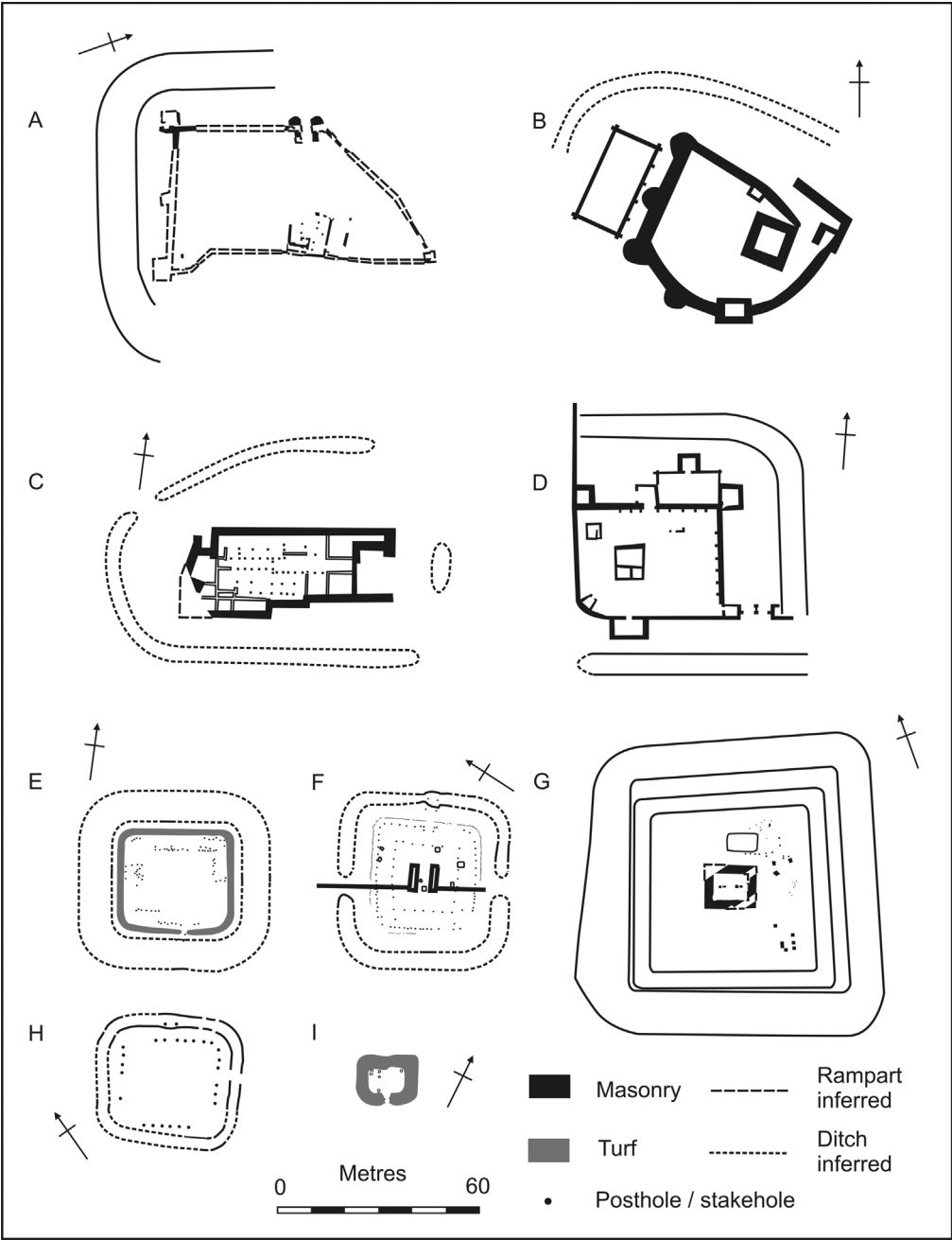


47 The cluster of small fortifications, seemingly originating in the second half of the third century, in the vicinity of Zülpich.

By Ian Bull

between northern Gaul and the lower Rhine frontier, but also the supply lines essential to sustain the military presence.

The establishment of a cordon of small turf and timber installations to watch over the Cologne–Bavay road is usually dated to between AD 260 and 275 (Fig. 48). These measures were superseded in the first half of the fourth century by a chain of masonry structures (Brulet 1995, 20–21), including a distinctive type of late tower containing internal post-pads, which would become a common feature of the European frontier zones. The essential characteristics of this approach to securing road traffic and – presumably – accelerating communications echo aspects of the Egyptian Eastern Desert, Hadrianic Wales, and Antonine Scotland configurations. The sudden need to fortify the Cologne–Bavay road, though, after centuries of occupation, suggests either a sharp spike in local insecurity during the second half of the third century or a



48 Late posts on or near the road system: (A) Isny, (B) Goldberg, (C) Bürgle, (D) Eining, (E) Heidenberg, (F) Froitzheim B, (G) Braives, (H) Rovenich, and (I) Bowes Moor.
After: Mackensen 1999; Ramstetter 2015c; Hagen 1931; Barfield 1968; Brulet et al. 1995; Heimberg 1977; Annis 2001

concerted attempt to implement a 'defence in depth' strategy. In either case, given that the remedial action represented by the cordon would not be out of place in freshly conquered territory, it implies a significant reversal.

To the south-west of Cologne, in the vicinity of Zülpich, a more innovative approach to managing security concerns appears to have been adopted (Fig. 47). Rather than being strung out in a line, a scatter of new, small installations within this region displays a more quixotic relationship with the road network. This has resulted in the fortifications being interpreted as either measures to protect farming communities (Brulet 1995, 24), or a confusing medley of public and private security measures (Krüger and Zantopp 1991, 64). One illustration of why people would start looking to their own protection may be forthcoming from a site directly south of another river frontier: the Danube. Excavation of the *villa rustica* at Regensburg-Harting recovered thirteen skeletons including three children, four women, and five men from two wells, where they appear to have been deposited in the mid third century. Some skulls preserving traces of sword or axe blows, and scalping (Becker 2009, 16). Although it should be stressed that Zülpich lies over 400km from Regensburg-Harting, the slaughter at the site presumably reflects the vulnerability of undefended farmsteads during this period.

Zülpich itself occupies a crossroads between routes to Neuss, Cologne, Reims, and Trier, while an intricate network of further main and branch roads are known or believed to pass nearby. Many of the fortifications were, however, set back from these thoroughfares. An installation at Rövenich was erected 1km distant from the nearest known highway, while an extraordinary group of three fortifications within less than 100m of each other at Froitzheim also lay away from a major road (see Box 8). Both sites, though, were close to probable Roman-era farms or civil settlements (Barfield 1968, 54; Heimberg 1977, 590–591). Elsewhere, the installations at Brühl-Villenhäus and Palmersheim lay beside highways, although the latter is also proximal to a farm (Hagen 1931, 140; Gerlach 1995, 91). Despite this variable, the installation designs are broadly homogenous. Turf defences have been proven at some sites, notably Brühl-Villenhäus where the rampart still stood 2.4m high prior to obliteration by mineral extraction (Hagen 1931, 142, 201), and are probable at many others. Known internal areas include 676m² at Brühl-Villenhäus, and 810m² at Rövenich. Fewer details are forthcoming about the buildings erected within the defences, but casemate-style structures have been detected at Heidenberg, on the Bavay road, and within one of the Froitzheim enclosures (known as 'B') (Hagen 1931, 203; Barfield 1968, 50; Fig. 48). All told, these installations bear a marked resemblance to fortlets, and will be referred to as such here.

The dating evidence suggests that the Zülpich installations, like their counterparts on the Cologne–Bavay road, can be assigned to the second half of the

Box 8: Froitzheim

A remarkable set of late fortifications were installed near a high-status building complex at Froitzheim. This boasted luxury fabrics such as marble and has been interpreted as a possible villa or official complex (Barfield 1968, 55). To the south and south-west lie three earthwork enclosures that appear similar in character to the wider Zülpich group. These enclosures were designated as 'B', 'C', and 'D', and lie within 100m of each other, which must raise questions about whether they were used contemporaneously.

A stone wall running north-south bisected enclosure B, and entered the midpoint of the northern defences of enclosure C. The excavators were adamant that the wall crossed the backfilled ditches of enclosure B, and so must post-date it (Barfield 1968, 35). Intriguingly, though, the wall connects to a masonry 'tower' at the centre of enclosure B, which rises from two rectangular rooms flanking a central corridor (Fig. 48). The excavators noted its similarity to a gateway (Barfield 1968, 51) and the structure is suggestive of a reused element of an earlier compound enclosing the building complex. Opportunistic reuse of the masonry triumphal quadrifons arch at Richborough, Kent, as an elevated observation platform within an otherwise turf and timber fortlet-style fortification provides a parallel (see Cunliffe 1968, 244).

The 1,150m² area within the enclosure B palisade experienced two episodes of occupation, dating to the second half of the third century, and the fourth century. Traces of casemate buildings were detected within the enclosure, while the quantity of horse bones and harness fittings recovered from the site imply that horses were also stabled there. Although the number of enclosures and the pre-existing high-status settlement would make these defences strong candidates for private measures, the quantity of ballista bolts from within 'B' suggests a military presence. Perhaps the enclosures protected an official complex associated with grain supply to the Rhine units.

third century. Both groups are frequently viewed as a response to the Frankish invasion of AD 257, and it has been suggested that foiling such incursions was among the tasks incumbent on their garrisons (Barfield 1968, 55; Bechert 1979, 21; Krüger and Zantopp 1991, 63; Gerlach 1995). The futility of using fortlet-size garrisons to counter invasions has already been outlined, as dividing and dispersing forces in this manner simply makes them easier for a numerically superior enemy to isolate and destroy. Equally, excavations at Brühl-Villenhäus recovered a coin of AD 268–270 from under the earliest rampart, indicating that it was founded over a decade after the invasion (Hagen 1931, 143–144). Both sets of third-century fortifications can also be ruled out as 'defence in depth' measures, as they fail Luttwak's test of being 'capable of sustained resistance against direct attack'. Fidelity to first- and second-century defensive techniques disqualifies them from such a role as these ramparts were, in Luttwak's words, 'not real fortifications' (Luttwak 2016, 155).

Alternative roles that have been proposed for the Zülpich fortlets include them acting as raised grain silos, or being used to ‘signal from tower to tower’ (Bechert 1979, 21; Krüger and Zantopp 1991, 63; Brulet 2016, 53). With the exception of Froitzheim ‘B’, though, there is scant evidence for the raised or tower-like elements necessary for this. It is more conceivable that some of the Zülpich installations served as refuges for local people, with the Froitzheim group superficially presenting a strong candidate (Heimberg 1977, 586). The eccentric arrangement of the earthworks, apparent reuse of elements of an earlier compound perimeter, and clear evidence for a prosperous settlement would all fit with an unofficial local initiative (see Box 8). Yet the quantity of ballista bolts recovered from Froitzheim ‘B’ indicates that whoever was manning it enjoyed access to serious military hardware. Equally, the limited space available within the Zülpich installations seems most appropriate for a small garrison, alongside its equipment, stores, and, probably, horses. In a number of cases such soldiers probably fulfilled a recognisable road fortlet role. At Palmersheim, where the presence of a farm has been seen as the critical factor, it is acknowledged that the adjacent road ‘would have always been under constant military control’ (Gerlach 1995, 91). Even at Rövenich, the 1km distance between the fortlet and the road permitted a more extensive view over its hinterland (Heimberg 1977, 583–586). Although this motive rarely seems to have been sufficient to draw earlier fortlets away from the immediate vicinity of a highway, it had been employed to maximise the impact of towers along roads for centuries.

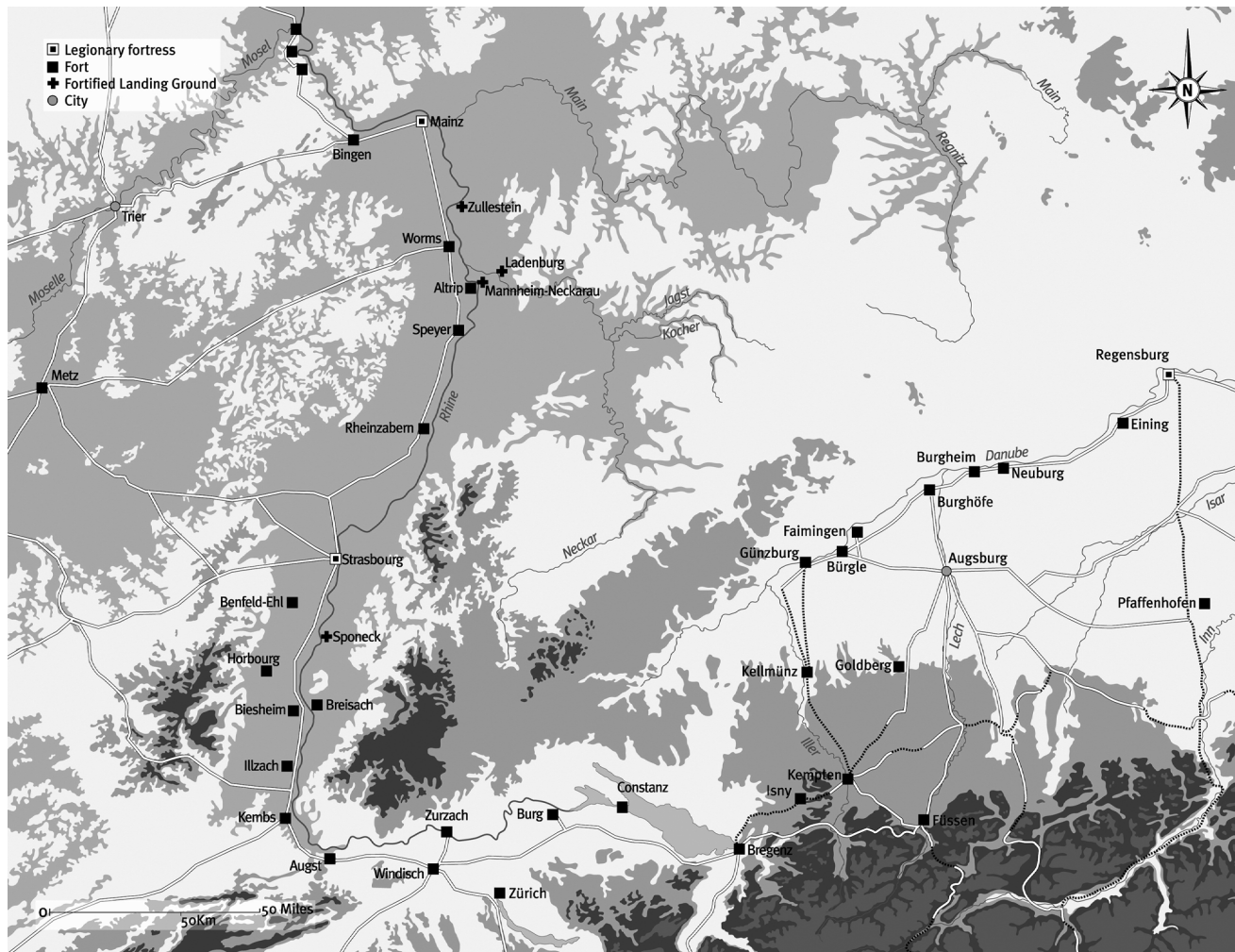
The third-century installations near Zülpich and along the Cologne–Bavay road seem most appropriate as measures to neutralise low-intensity disruption, in the form of either modest raiding groups penetrating the frontier or insecurity emanating from the local area. One intriguing area of overlap with numerous earlier outpost cordons is that the Zülpich installations predominantly occur within a zone of transition where the land rises up into the Eifel mountains. The proliferation of posts on the fringes of the fertile loess belt would, in conjunction with the installations on the Cologne–Bavay highway, fit with the military taking measures to ensure the security of the grain production and supply mechanisms essential to sustaining their presence on the lower Rhine. Perhaps groups living in the Eifel mountains took advantage of uncertain times to plunder their lowland neighbours near Zülpich and blame it on cross-border incursions, or perhaps raiding from beyond the frontier intensified following the collapse of the Upper German *limes*. A third possibility is that the fortifications are linked to the fall of the Gallic Empire. As well as providing a means to assert imperial control over a critical tract of the newly recovered territory, it is possible – though speculative – that any attendant purge of the breakaway Rhine units increased desertion rates and therefore created a spike in local insecurity as former soldiers were forced into banditry.

THE FINAL FRONTIER

Along many stretches of the upper Rhine and Danube, the collapse of the land *limites* reset the line of control to that existing in the Claudian era. In the region between the headwaters of the Rhine and the Iller, a Danube tributary, the clock was turned back even further. When the final version of the Roman frontier systems connecting the two great European rivers was installed, it shadowed the upper Rhine and then the southern shore of Lake Constance, before heading cross-country at Bregenz to reach the Iller at Kempten. From there, one road led north-east to the provincial capital of Raetia at Augsburg, while another struck north, following the course of the Iller to the Danube. As befits a system mostly utilising watercourses, this axis of control has become known as the Danube–Iller–Rhine frontier (Fig. 49). Despite this emphasis on rivers and a lake, the stretch of road running from Bregenz to Kempten, and from there to Augsburg, offers an opportunity to examine a late fortified road. Naturally, this highway also served as a frontier line, but the most illuminating installation erected along it appears to predate the establishment of a formal *limes*.

The commissioning of the Danube–Iller–Rhine border was traditionally assigned to the Emperor Probus, reigning from AD 276–282. More recently, the establishment of a frontier system has been re-dated to the final years of the third century (Mackensen 1999, 209, 221). This unexpectedly late date fits with indications that some forts on the Upper German *limes* were reoccupied and held until AD 290 or later (Heeren 2016). The Bregenz–Kempten highway was once thought to be ‘heavily guarded by a series of watchtowers at frequent intervals’ (Johnson 1983, 169), although an assessment of the installations that are archaeologically attested rather than simply assumed has seen their numbers plummet. The conclusion that these posts were ‘spaced irregularly depending on local requirements’ is one that will, by now, sound familiar (Mackensen 1999, 231). This cordon has also been redated to the second half of the fourth century, indicating that the palimpsest of installations shown along modern plans of the Danube–Iller–Rhine frontier only developed incrementally.

The earliest known fortification associated with the Bregenz–Kempten road was founded at Brettmauer, near Isny, and can be dated to the second half of the AD 270s (Fig. 48; Fig. 49). This makes it broadly contemporary with the fortlets around Zülpich, and in common with some of those installations, Isny was divorced from the line of the road (Mackensen 1999, 205). Isny, though, had stone defences and is judged to be a classic example of a more topographically savvy approach to fort design. Despite this, it bears some similarities to larger second-century road fortlets like Castleshaw. The interior of Isny covers c. 2,964m², making it about a third larger than Castleshaw, but both installations contained barracks comprising six rather than the standard eight



49 The Danube–Iller–Rhine frontier, showing the upper stretches of the Danube and Rhine.
By Ian Bull

contubernia, a commander's suite that featured heated elements, a structure superficially resembling a *principia*, and a potential stable (Mackensen, 1999, 205–207; Symonds 2015a, 86–87). Both installations were carefully positioned within the local topography, although the haphazard shape of the perimeter at Isny does display a level of adaptability to the geomorphology in excess of anything attempted at Castleshaw. Nevertheless, the fundamental concept is hardly alien to the sublime marrying of topography and defences at the second-century Durisdeer fortlet, Dumfries and Galloway (see Fig. 28 in Chapter 3).

A further illustration of this synergy between new defensive technology and earlier fortlet facilities occurs at Goldberg, along the consecutive stretch of road between Kempten and Augsburg (Fig. 48; Fig. 49). Goldberg was established on a natural elevation and has been interpreted as a 'police- and road-station' (Mackensen 1999, 228–230), a phrase that once again resonates with earlier fortlet use. In c. AD 300 a 15m by 15m tower was raised at the site, which may or may not have been retained after it was damaged by fire. After 335, a masonry rampart complete with bastions and towers was installed, and then a granary was added c. 370. This was vastly overlarge for the garrison and has been linked to a decree of 369 that codified measures to ensure that the frontier garrisons were suitably provisioned. Comparable granaries were either appended to, or newly fortified at several sites in this region, and it has been noted that with the exception of Eining, most of the known examples occur on the road network inland from the border (Mackensen 1999, 234–239). This arrangement provides a striking parallel for the larger road fortlets holding oversize granaries along remote stretches of the British road network in the second century AD.

These areas of overlap between earlier fortlets and late fortifications raise the question of whether they were also manned by soldiers on detachment duty away from their home base. A late fortification at Bürgele bei Gundremmingen, occupying a hillock near the South Danube road, may provide some clarity (Fig. 48; Fig. 49). Despite enclosing an area of only 1,820m², this installation has been identified as a fort garrisoned by the *cohors V Valeria Frygum* (Mackensen 1999, 213). Its layout resembles a compressed version of that visible at 'in der Harlach', and it is probable that if the barrack accommodation was not stacked two or more storeys in height the entire unit comprised less than 100 soldiers. As well as indicating that Isny could be a fort, the implications of this are significant. Factors including the limited facilities available within the fortlets, the social deprivation, and the risk of violence in small frontier posts are all a source of disquiet in the Egyptian *ostraca*. Such concerns were probably also applicable to Bürgele, but unlike the second-century soldiers awaiting relief in the *praesidia*, this fourth-century garrison was apparently already at its home fort. Such a marked shift in the day-to-day reality of military service may well help explain why recruitment became increasingly tortuous, but it also emphasises that late forts were becoming more like early fortlets. It is worth noting

that while the sophistication of the three fortifications considered here is more in keeping with ‘defence in depth’ strongpoints, they all lie on or, in the case of Goldsberg, near the edge of Roman territory.

THE FOURTH-CENTURY SECURITY SITUATION IN BRITAIN

If one of the central contentions of this volume, that the presence or absence of outposts in a region provides an insight into its security situation, is accurate, then Britain appears insulated from the third-century convulsions that brought enhanced security measures to the near Continent. This was not because the island remained aloof from political and military intrigues. On the contrary, it formed part of the breakaway Gallic Empire and was also integral to the territory that seceded from Rome under Carausius and, briefly, Allectus between AD 286–296. Nevertheless, Maiden Castle, on the Stainmore pass, is the only free-standing outpost that can stake a persuasive claim to being occupied throughout the third century. This suggests that Britain’s dabbling in regional insurrection did not bring comparable consequences to those experienced in parts of Germania Inferior. These contrasting fortunes may have been dictated in part by the efficacy of the regional frontiers. The collapse of the Upper German and Raetian *limites* emphasises that local border control had become a serious problem. There is less sign of instability in Britain’s frontier zone. Although recent surveys of the evidence have concluded that there was more activity along Hadrian’s Wall in the third century than the sparse written references concede (Hodgson 2008, 15–20; Roach 2013), there is no sign that it witnessed tumult of a similar magnitude to that wracking the European frontier zone.

By the second half of the fourth century, the situation in Britain had deteriorated. During the last half century or so of imperial control the British provinces appear to have been in a parlous state. The source of this upheaval does not, however, seem to stem from any protracted weakening in the effectiveness of Hadrian’s Wall. As we have seen, none of the Wall forts, milecastles, or turrets are known to have been upgraded to incorporate advances in defensive technology, leading to the frontier zone being declared ‘stable’, ‘relict’, and even a ‘backwater’ (Collins 2012, 56; 2015, 18; Gerrard 2013, 43). It is hard to read the architectural conservatism apparent on Hadrian’s Wall as a product of anything other than a lack of serious military pressure from the north. Instead, both the ancient historical and archaeological evidence point to increased maritime raiding causing the greatest concern. The impact of this on the coastline will be considered in Chapter 8, but the problem itself was not a new one: before turning his hand to usurpation in AD 286, Carausius had been appointed to clear the English Channel of pirates and raiders.

In the fourth century, coastal raiding appears to have spread, intensified, and become increasingly well organised. If Ammianus is taken at face value, this

process reached its climax in the crisis of AD 367–368, which has become known as the ‘Barbarian Conspiracy’. This affair is cast as a co-ordinated act between different groups assailing Britain, which dealt a considerable blow to Roman prestige. Ammianus captures the ‘great consternation’ with which Emperor Valentinian greeted news that ‘Nectaridus, Count of the coastal district, had been killed, and . . . Duke Fallofaudes had been surprised and cut off’ in Britain (Ammianus 27, 8). The soldiers comprising the British garrison reportedly reacted to this turmoil by deserting in large numbers, considerably aggravating the imperial headache. After two false starts, Count Theodosius was despatched to Britain with four field army units and a mandate to restore order. Theodosius discharged his duties with aplomb, and routed Rome’s enemies, foiled a usurper, and ‘protected the borders with guard posts and defence works’ (Ammianus 28, 3).

Ammianus’s account has emboldened modern scholars to attribute anything dating to this general period to the Barbarian Conspiracy and its aftermath (Mattingly 2006, 237). There is, however, cause to doubt Ammianus’s standing as an objective narrator. Count Theodosius was the father of the emperor reigning while Ammianus was writing, providing a potentially irresistible motive to pen a flattering account of Theodosius’s achievements. Yet he only commanded a modest force, which has been estimated at 2,000 or 4,000 men (Mattingly 2006, 236; Collins 2012, 17), implying that the scale of the chaos may have been exaggerated. There are also fundamental unanswered questions about how the ‘barbarian’ conspirators managed to coordinate their attacks (Mattingly 2006, 235). Serious raids are recorded in Britain in 360 and 364 (Ammianus 20, 1; 26, 4–5), and it is possible that the 367 crisis was simply a particularly acute example of a longstanding and increasingly common problem. Better, perhaps, to conjure a conspiracy than admit that the available troops were simply inadequate to tackle multiple raiding parties striking at different targets within the British provinces.

Despite the need to be cautious about specifically associating military infrastructure that was installed in the second half of the fourth century with the events of the Barbarian Conspiracy, there is no doubt that numerous new fortifications were founded during this period. Whether these installations owe their origins to the raids of 360, 364, 367, or others that we have no record of is unclear, but the focus of this initiative was clearly on tightening military control of the coastline and, to a lesser extent, elements of the road network. Describing the new wave of smaller structures established during the later decades of the fourth century as fortlets rather than forts remains contentious (cf. Hodgson 1997, 65 and Hind 2005, 17). Nevertheless, their design and positioning display striking similarities to fortlet use in preceding centuries, while the continued use of many second-century forts in Britain without any obvious sign of a reduction in their perimeter means that unlike Continental Europe a size difference is also arguably discernible (Symonds 2015b, 48).

We have repeatedly encountered the stretch of the York–Carlisle highway that traverses the Stainmore Pass. As outlined in Chapter 3, this critical component of the communications system may have been secured by a cordon of towers and a fortlet in the early second century (p. 75). Construction of Hadrian's Wall would have increased the importance of the Stainmore Pass, as it permitted a direct road link between the legionary fortress at York and Carlisle. This significance presumably explains the otherwise unprecedented retention of a freestanding fortlet in Britain at Maiden Castle for potentially almost 300 years. In the mid or later fourth century, the number of small installations on the approaches to the pass proliferated once more (see Fig. 21 in Chapter 3; Fig. 48). It should be stressed that the dating evidence precludes any certainty that these posts operated in unison. Even so, it remains a strong possibility that a cordon was re-established in the second half of the fourth century, more than two centuries since such a measure was last deemed necessary (Symonds 2015b, 55–58).

At least two posts were established on the eastern approach to the pass at Bowes Moor and Rey Cross. The defences of these sites were of a very different calibre to the mortared masonry rampart at Maiden Castle. Bowes Moor comprises a modest rectilinear earthwork with an internal area of just 65m², a size more compatible with a tower than a fortlet (Fig. 48). An absence of postholes within the interior prompted the excavators to suggest that a tower stood upon unworked stones, which served as postpads (Annis 2001, 99, 105). This conjectural arrangement has been convincingly criticised for its inherent structural instability (Bidwell and Hodgson 2009, 58), and it seems more likely that the turf rampart demarcates a tiny garrison post (Symonds 2015b, 56). Finds suggest a date in the third quarter of the fourth century and imply 'a short life' (Annis 2001, 111), while a fragment of armour fits with a military context (Bishop 2001, 170). The small and insubstantial nature of Bowes Moor would make it very difficult to detect once the defences were ploughed flat and such short-lived posts could easily have existed in greater numbers than we currently appreciate.

Late activity at Rey Cross can also be dated to the second half of the fourth century (Robinson 2001, 80; Fig. 21). Military activity here is of especial interest, as it involves the partial reuse of an earlier temporary camp. It has been proposed that a tower was constructed within the camp (Robinson 2001, 80), but the association of the pottery with a haphazard set of stake-holes presents the alternative possibility that this was simply another small and even more rudimentary garrison post. While the combination of Bowes Moor, Rey Cross, and Maiden Castle presents an effective means to control the eastern and western mouths of the pass, constructing the former two out of turf or timber would fit with them being short-term measures to reinforce

security after episodes of disruption. Naturally such posts would only be effective against very low-level threats.

ROADS TO RUIN?

Knowing how the story of the Roman Empire in north-west Europe ends makes it almost irresistible to extrapolate backwards and seek signs of the looming imperial twilight. Obviously, the men manning the late outposts and forts considered here did not appreciate that they were gathering for the final act. The Empire had endured for four centuries and rebounded from countless setbacks. For some, its continued existence may have acquired an aura of inevitability. Although the very need for enhanced security methods in regions where they had not been necessary for centuries, if ever, is most plausibly explained by a marked local deterioration in the *pax Romana*, we must not allow our knowledge of the historical context to blind us from the successes among this failure. Most of the apparent fortlets near Zülpich seem to have had a comparatively short lifespan. In earlier centuries this would be taken to indicate that stability was achieved, allowing the network to be safely decommissioned. There is no reason why this should not also be the case here. By contrast, the posts along the Cologne–Bavay route were superseded by masonry posts, making them more compatible with a ‘defence in depth’ strategy. Replacing an earlier turf-and-timber cordon in this manner does, however, invite suspicion that the original source of disruption simply proved more tenacious.

Apart from the increased willingness to erect masonry structures, the essential character of third- and fourth-century fortlets along or near the road network is recognisable as an evolution of the techniques developed in previous centuries rather than a new ‘defence in depth’ method. The greatest innovation is the increased willingness to establish fortlets at greater distances from the roads – and traffic – that they were presumably guarding. In many cases this dislocation can be explained by a desire to command a sweeping view and create a more potent visual deterrent. Although this outcome is in keeping with preceding fortlet practice, the difference in approach that the greater distance from the roads represents may be significant. In previous centuries, satellites set back from a road in order to maximise the area under direct military surveillance were more often towers than fortlets. On both the Stainmore pass and, especially, the Stanegate road, this allowed fortlets to lie on the roadside, while towers positioned judiciously within the landscape could act as their eyes. By the late period, these twin desires are increasingly catered for by a single, fortlet-style fortification, which could be set back from a highway in order to act as both a garrisoned strongpoint and sentinel.

The probable forts along the Bregenz to Augsburg road display a heightened willingness to tailor defences to the terrain. Despite a tendency among scholars

to emphasise the innovative nature of these new late fort designs, the true points of departure concern the scale of the defences and a willingness to let the topography guide their course. In terms of the facilities available within these installations, and very probably the range of duties undertaken by their garrisons, clear antecedents exist among earlier fortlets. One notable reversal from the first- and second-century situation, though, is that the numbers and ingenuity exhibited by outposts along the late road network in Continental Europe eclipse the comparatively modest measures undertaken in Britain. If both overall numbers and a willingness to innovate can be attributed to the scale of the attendant threat, then it seems clear that Britain was not assailed by comparable insecurity to that overtaking the near Continent until the second half of the fourth century. While it is unquestionable that major change was underway on the island during the preceding century, the evidence for outpost use fits with the traditional view that Britain remained a safer place to be (see Frere 1974, 188).

CHAPTER EIGHT

LATE WATERWAYS

From the very beginning, outposts strung out along watercourses were associated with borders. Often – perhaps always – their emergence was tied to a period of local retrenchment, with rivers and coastlines offering a convenient line of both demarcation and supply until the advance could resume. In some cases, the resulting close-control systems only endured for decades; in others we can retrospectively see them as an early step towards implementing a permanent border. By the late period any optimism that the army had merely stalled rather than stagnated on the banks of the great European rivers must have long since dissipated. The reorganisation of the military into field and frontier arms, coupled with the preference for larger numbers of smaller units indicates that the border forces had effectively been stripped of the assault capability provided by forts and fortresses in earlier centuries. Instead, the late configuration created a deployment pattern that was dispersed to an unprecedented degree. As this is best viewed as a means to detect and prevent small groups from pushing in, the priority seems to have been holding the line, rather than conducting forward defence in neighbouring territory.

Given this ambition to maintain the status quo, we can be confident that the late outposts installed along the Rhine and Danube rivers represent responses to faltering border security. The founding of fortlets along the North Yorkshire coastline in Britain can be seen as a symptom of a similar malaise. There, though, rather than augmenting existing measures, these fortifications served as the building blocks of a new control system. If historical accounts of the

increasing proficiency of maritime raiders are taken at face value, then the entire coastline effectively became a border zone. Increased pressure on the Rhine, Danube, and British coast posed a threat in two ways. The very suitability of these watercourses to act as both barriers and highways, which is presumably what made them so attractive as garrisoned lines in the first place, created a critical weakness once Rome's forces lost the initiative. Not only did 'barbarian' breaches of the border allow raiding deep into the provinces, but loss of control of the river banks also severed a vital supply and communications artery (Mackensen 1999, 222). Any loss of naval supremacy within Britain's sea lanes posed a similar danger.

The range and scale of small fortifications constructed on riverbanks and coastlines testify to the acute strain these areas were under, and the determination of successive emperors to alleviate it. This focus is particularly evident in Britain, where the most sophisticated late outposts currently known were erected on the coast (Symonds 2015b, 59). In order to understand what the resources poured into the final, serious attempts to bolster the north-west borders of the Empire reveal about imperial priorities, this chapter assesses how a single fortification type was seemingly adapted for use along the Rhine, and in North Yorkshire.

THE LATE RHINE

Following the loss of the German land *limites*, the Rhine channel provided the backbone of the new Roman border. South of Rheinbrohl, where the course of the Upper German *limes* had once headed east overland, measures were taken to fortify the Rhine riverbank. Further renovations along the Rhine frontier appear to have occurred sporadically until the late fourth century. Unfortunately, the available dating evidence rarely allows sufficient precision to dissect the development of these border works. As is so often the case, ancient historical sources have been employed to fill an archaeological lacuna, in this instance the pages of Ammianus Marcellinus. He records a building campaign by Emperor Valentinian I (r. 364–375) in AD 369:

Valentinian, having several great and useful projects in mind, began to fortify the entire banks of the Rhine, from its beginning in Raetia to the ocean, with vast works; raising lofty forts and fortlets [*castella*], and frequent towers [*turresque*] in opportune places, so as to protect the whole frontier of Gaul; and sometimes, by constructing works on the other side of the river, he almost trenched upon the territories of the enemy.

(Ammianus 28, 2, 1)

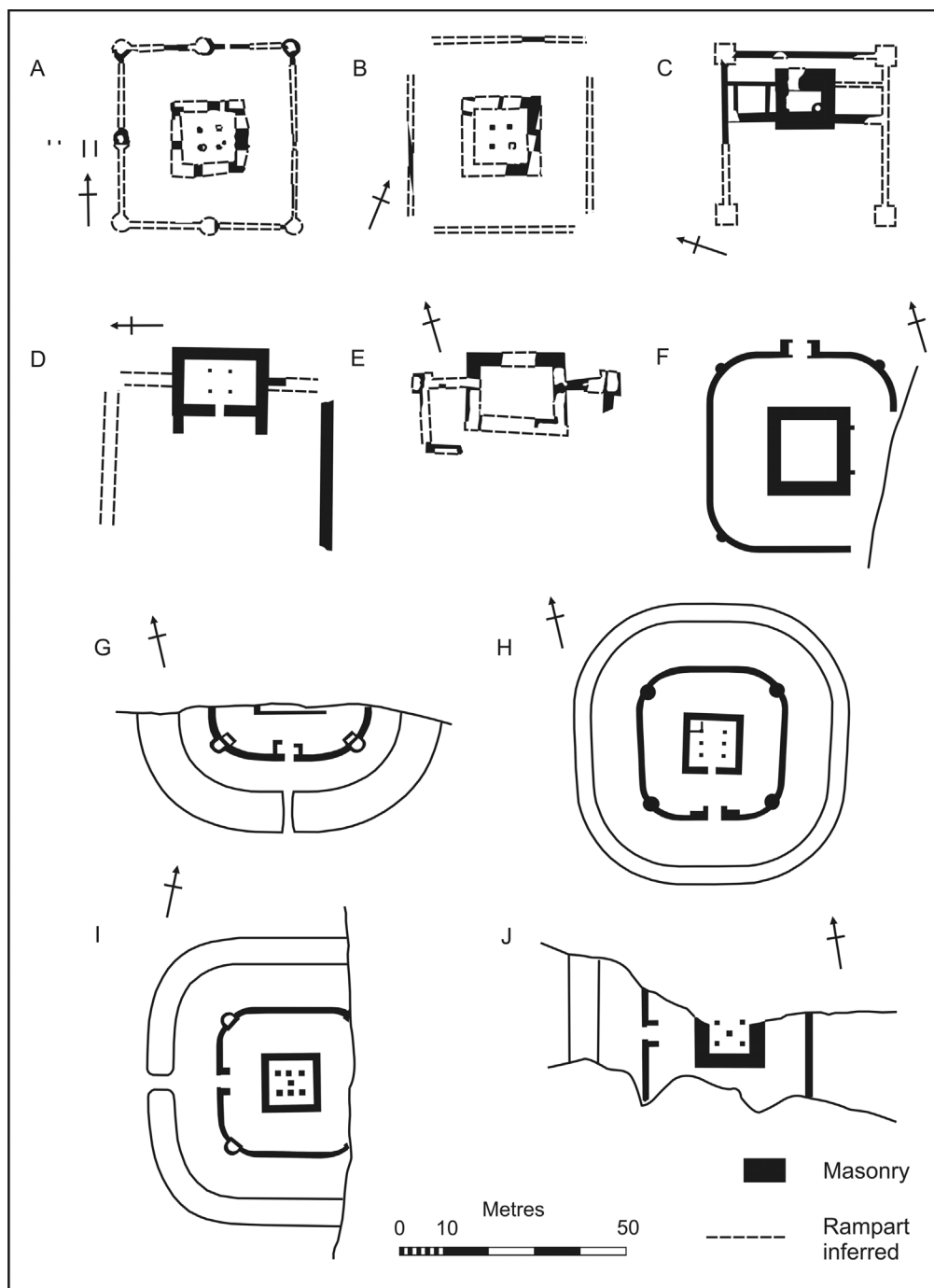
Whether Valentinian I deserves credit for all of the installations that have been assigned to him on the strength of this passage is doubtful, but it is clear that numerous installations were constructed under his auspices. The sequence of masonry towers shadowing the upper Rhine between Basel and Lake

Constance, for instance, has produced two inscriptions dating to AD 371 (Drack and Fellmann 1988, 478). Elsewhere, links with the emperor can be asserted using finds assemblages or tile stamps. The archaeological and ancient historical evidence certainly seems to be in agreement that the last concerted attempt to bolster the Rhine with new fortifications occurred in the late fourth century (von Petrikovits 1971, 187).

One particularly versatile installation template appears to have been employed in various forms during this period, and two Rhineland examples of the 'standard' configuration are provided by Moers Asberg and Asperden. A coin of AD 367 sealed within the Moers Asberg foundations provides the earliest possible date for its foundation (Krause 1974, 120). Of the seventy-eight identifiable coins found at Asperden, two belong to the late third century, six to the house of Constantine in the first half of the fourth century, and fifty-six to the last two decades of the fourth century. If the earliest eight coins are residual, then the next earliest coins from the site are Valentinianic issues dating to AD 367–375, making construction during that period possible, and activity certain (Hinz and Hömberg 1968, 191–192). Moers Asberg and Asperden are typically referred to as *burg*, a term that has been largely avoided here, primarily because the inconsistent way it is applied by modern scholars invites confusion about the true nature of the installation being addressed. These sites are, for instance, markedly more sophisticated than the fortlets we have already encountered around Zülpich, which are themselves often branded *burg*.

The design of Moers Asberg and Asperden effectively combines the fortlet and tower archetypes by setting a substantial central tower with internal post-pads within a masonry rampart that enclosed an area of c. 1,600m² (Fig. 50). In both cases, the foundations for the central tower were prodigious, amounting to 2.7–3.2m at Moers Asberg, while the robber trenches at Asperden were over 4m wide (Krause 1974, 118; Hinz and Hömberg 1968, 172). Similar installations are known along the Danube, while an inscription from a variant form on the north-east coastline of Britain acknowledges this fusion of fortification types by referring to a '*TURR[E]M (ET) CASTRUM*' (RIB 721; Hodgson 1997). Although this marriage of the two classic outpost forms is achieved in a particularly harmonious fashion, it would be a mistake to identify this as a peculiarly late Roman phenomenon. In the second century, towers were inserted within upstanding fortlet ramparts on the Upper German *limes*, at sites such as Am Forsthofweg and Ockstadt, while the late-second-century fortlet at Tisavar, Tunisia, has a tower-like structure at its heart (Collins and Symonds forthcoming). Whether late fortifications of this form should be considered forts or fortlets remains disputed (Hodgson 1997, 65; cf. Hind 2005, 17), although their design and positioning is certainly compatible with the latter.

The installation at Moers Asberg lay beside a silting up meander in the Rhine channel, while Asperden occupied a lofty terrace overlooking the Niers



50 Late posts on or near watercourses and coastlines: (A) Asperden, (B) Moers Asberg, (C) Ladenburg, (D) Engers, (E) Mannheim-Neckarau, (F) The Nunnery, (G) Huntcliff, (H) Goldsborough, (I) Scarborough, (J) Filey.

After: Hinz and Hömberg 1968; Krause 1974; Heukemes 1981; Schleiermacher 1942; Monaghan 2011; Wilson 1991.

valley. The former location is easily explicable, as it lies opposite the intersection between two major waterways at the confluence of the Rhine and the Ruhr. It also seems probable that the former meander adjacent to the fortification still held water, providing access to the Rhine (Krause 1974, 146). As such, Moers Asberg presents a classic example of a small installation tightening control of a point of concern and providing a visual statement of Roman control. The impetus for a fortification at Asperden is more opaque, but is usually linked to the presence of a road. The possibility that the Niers river was still navigable at Asperden offers an alternative explanation, which would fit with the importance of watercourses as communications corridors in the late period (Hinz and Hömberg 1968, 194; Brulet 2016, 53). If, as seems likely, these late installations were placed with as much care as their precursors, founding such a sophisticated fortification over 15km from the Rhine suggests that either raiding parties were routinely penetrating deep inland or security was breaking down within Roman territory, or both. Alternatively – and uniquely for an installation considered in this chapter – Asperden could plausibly function as a component of a ‘defence in depth’ system.

No traces of barrack accommodation were detected at Moers Asberg or Asperden, and in general internal buildings seem to be far less archaeologically visible than in earlier centuries. A line of hearths running adjacent to the rampart within a comparable installation at Goldsborough, Yorkshire, suggests the presence of casemate timber barracks (Hodgson 1997, 65). If this was a single-storey building, then a garrison size lower than the eighty-soldier ceiling normally cited for fortlets is eminently plausible. This implies that despite the imposing nature of these late defences, the direct threat in terms of the numbers involved could still ordinarily be neutralised by a modest force of soldiers. The similarities between Goldsborough and Moers Asberg and Asperden make it reasonable to propose that they were manned in a similar fashion, by garrisons that undertook a similar range of duties to those in earlier fortlets. Indeed, establishing the majority of these highly sophisticated fortifications along the edge of Roman territory suggests a continuing desire to intercept raiders at or approaching a point of ingress.

Fortified Landing Grounds

A group of installations known as ‘fortified landing grounds’ seem to feature the same core components as Moers Asberg and Asperden, but have been cosmetically tailored to operate in a different context. Despite this overlap, these ‘fortified landing grounds’ are perhaps the most celebrated innovation to occur along the European rivers, and examples have been identified along the Rhine, Neckar, and Danube (Fig. 50). As their name implies, the ‘fortified landing grounds’ are interpreted as a measure to allow Roman forces that had

cause to cross the rivers a safe berth on the far, 'barbarian', bank (Schleiermacher 1942, 194). Ammianus's reference to Valentinian's building campaign including fortifications on the far side of the Rhine is construed as strong support for the construction, or at least occupation, of these sites during his reign. This would fit with pottery discovered at Engers (Johnson 1983, 155), and tile stamps from the Danube examples, although the interpretation of these latter has proven contentious (Johnson 1983, 193; Lander 1984, 288). Even so, a date in the second half of the fourth century for the construction of these facilities seems probable. The width of the area enclosed within the masonry ramparts typically falls in the region of 40m, while modest, projecting bastions are usually present at the corners. It is tempting to see these as a late equivalent to the corner towers frequently found in earlier river fortlets.

In addition to the appeal of tiny bridgeheads being valiantly held on a hostile riverbank, the renown of these installations can be attributed to a seemingly exceptional facet of their design. Rather than being enclosed by a rampart on all four sides, they appear to have been open in part or in totality along the riverfront. At Engers, it was suggested that the eastern stretch of rampart ran into the river channel, permitting boats to land directly within its walls (Schleiermacher 1942, 192; Johnson 1983, 155). Suggestions of wooden posts in the river at various sites have been linked to the presence of jetties, implying that these fortifications were essentially prefabricated harbour installations (Johnson 1983, 155). Leaving the riverside completely open would be an extraordinarily bold move if there was any risk of attack from that direction. This defensive weakness could be overcome by inserting a rampart to partition the space between the open rear end and the interior of the installation proper. This is precisely the technique employed at Ladenburg, while an unexplained and partly destroyed wall stub running parallel to the river at Neckarau suggests that a comparable, small compound existed there (Fig. 50). Erosion is known to have scoured away portions of the 'fortified landing grounds' (Schleiermacher 1942, 194), and it seems likely that in many cases a fourth wall partitioning off an inner compound has been lost. This would combine a fully defended area for the garrison with facilities allowing secure resupply via the river.

In most cases a substantial tower was positioned astride the length of curtain furthest inland from the river channel (Schleiermacher 1942, 193; see also Heukemes 1981, 439–443). These towers stood on wide foundations and contained two or more internal postpads, which presumably received a timber frame. One explanation for the massive build of the towers is that the upper storey (or storeys) was heavily laden with 'stores, weapons and munitions' (von Petrikovits 1971, 197). The presence of projectiles is supported by finds from some broadly comparable towers elsewhere, including examples on the Cologne–Bavay road and at Froitzheim (see Box 8; Brulet et al. 1995; Barfield 1968, 49). A desire for artillery emplacements has also been cited as a likely

explanation for the construction of similar towers within installations on the Yorkshire coast (Wilson 1991, 146). On this basis, it may be telling that most towers in the 'fortified landing grounds' were positioned so that they physically projected into 'barbaricum'. If they were intended as artillery platforms (Lander 1984, 288) it is reasonable to infer that the principal threat was expected from inland. An exception of sorts occurs at Ladenburg, where the tower straddles an inner, rather than outer, stretch of rampart (see Heukemes 1981, 439–443). Even there the tower seems better placed to engage groups approaching from the interior than along the river.

If these 'fortified landing grounds' did originally contain enclosed inner compounds, it begs the question of whether they were any more 'fortified landing grounds' than first-century fortlets overlooking natural moorings on the Danube, or landing grounds in Exmoor. Rather than envisaging these late garrisons serving only to protect a landing facility, we can see them conducting patrols in a similar fashion to detachments manning outposts in preceding centuries. Such forces could also gather intelligence and dole out food or other bribes to favoured 'barbarians' in a fashion similar to that attested in Egypt. Perhaps the most useful capability they added, though, was the ability to break up small raiding parties before they could either interfere with river traffic or enter Roman territory. By seeking to intercept hostile groups in advance of the border, these garrisons were in effect maintaining a limited capability for forward defence. This technique is often seen as integral to Roman borders in earlier centuries, but is generally believed to be in abeyance by the late period (see Luttwak 2016, 156).

THE YORKSHIRE 'SIGNAL STATIONS'

Subtler examples of the reworking of the Moers Asberg and Asperden template can be found on the North Yorkshire coast in Britain. The chain of fortlets, traditionally referred to as signal stations, established along it in the final decades of the fourth century AD is by far the most celebrated example of a late outpost system in Britain (Fig. 51). Four installations have been proven by excavation: Filey, Scarborough, Goldsborough, and Huntcliff (Fig. 50); a fifth is indicated by an inscription from Ravenscar; and a sixth is plausibly thought to have been eroded away at Whitby, while the evidence for a seventh at Seaton Carew is stronger than usually accepted.¹ The four extant ground plans are closely comparable to an additional site on Alderney: the Nunnery (Hodgson 1995, 65; Ottaway 2000, 187–188; see Box 9).

¹ Although the walls had been robbed out at Seaton Carew, the presence of 'about half-a-dozen more or less squared, but isolated, blocks of new red sandstone' was recorded (Middleton 1885, 108). This would be an apt description of the postpads within the central towers.



51 The location of the late fortlets along the north Yorkshire coast.

By Ian Bull

Like their Continental counterparts, both the Yorkshire fortlets and the Nunnery contain a large central tower set within a masonry rampart equipped with corner bastions (Fig. 50). A decision to build the enclosure ramparts with boldly inflected corners, rather than the right-angled junctions employed on the European Continent, had a profound practical impact as it rendered enfilading fire along the rampart face impossible. It seems probable that the builders were replicating the curved rampart corners that still existed in abundance in northern Britain, but were obsolete elsewhere by this period (Wilson 1991, 145–146). As the Nunnery was also constructed with curved corners, this error was more than just a localised misunderstanding. Although the central towers superficially appear identical to overseas examples, there is another subtle anomaly in their design that also suggests unfamiliarity with such structures. In Continental Europe, these towers do not seem to have been equipped with more than four postpads. Even though the British towers are no larger, the smallest number of postpads to have been found is five, at Filey, while Scarborough produced seven. This apparent over-engineering would be consistent with a lack of confidence in the stability of these edifices, once again implying builders unfamiliar with such structures.

All of the most southerly six Yorkshire fortlets, apart from Goldsborough, occupy natural eminences dominating potential landing grounds in a manner analogous to the first-century Exmoor fortlets (Hind 2005, 20; Symonds 2015b, 48; Fig. 52). Tellingly, Goldsborough is set back from the coastline,



52 Potential landing grounds: (A) Filey Bay, looking south from the site of Filey; (B) the harbour at Scarborough, south-west of the fortlet; (C) Robin Hood's Bay, looking north from Ravenscar; (D) the view north from Huntcliff towards Hartlepool.

which impaired its deterrent effect, but allowed it to monitor the overland approaches to and from a greater number of bays. This suggests a pragmatic decision to compromise on a coastline setting in order to maximise the intercept capability of its garrison. The probable Yorkshire fortlet at Seaton Carew engages with the local terrain in a very different way than the six canonical Yorkshire fortlets. Rather than crowning precipitous cliffs, it lay just above sea level on the expanse of beach north of the Tees mouth. The Nunnery adopts a similar position to command Longy Bay on Alderney (see Box 9; Fig. 53). As a dramatic clifftop setting is available on ground rising from the southern lip of Longy Bay, a position just above beach level was clearly judged actively preferable and would have permitted closer control of the harbour. A group of late fortlets on the west coast of Britain took a similar

Box 9: The Nunnery

The Nunnery overlooks Longy Bay, which until the eighteenth century was the only viable harbour on Anglesey. This fortification boasts one of the best-preserved curtain walls anywhere within the former Roman Empire. Around parts of the perimeter, substantial portions of the crenellations still survive, preserved when the height of the rampart was subsequently raised (Fig. 50; Fig. 53). Although the presence of Roman material and an earlier rampart line had been noted by several observers (Kendrick 1928, 48; Langouet 1986, 111), it does not seem to have been appreciated that this was intact Roman masonry. The author noted the remains of four crenellations – with a double row of tiles at the level where they intersected with the top of the curtain – during a research trip in 2001. When he pointed these out to members of the Société Guernesiaise and the Société Jersiaise in 2011, they swiftly detected the stubs of numerous additional crenellations, which only survived below the tile course.

Excavations by Jason Monaghan have demonstrated that the Roman curtain stood to a height of over 6m. This work also revealed that a central tower similar to those found in the Yorkshire fortlets and on the European Continent was erected within the Nunnery. Monaghan realised that the eastern side of this tower was still standing c. 4m high, a level of preservation that was once again due to the masonry being incorporated within later rampart fabric, after the original collapsed onto the beach (Monaghan 2011). The internal area of the Roman fortification seems to have been c. 1,600m² (Johnson 1979, 82).

The enduring utility of a fortification controlling Longy Bay explains the astonishing preservation of this site, as the Nunnery has been maintained, refurbished, and augmented by generations of soldiers. Major modifications include adaptation for cannon use in 1540, receiving casemate masonry barracks in 1793, and being augmented with machinegun posts and a bunker during the Second World War (Johnston 1977). This provides a testament to the original builders' appreciation of both the protection the Nunnery could extend to official ship-ping and the obstacle it presented to unwelcome visitors.



53 The Nunnery (centre) lies just above beach level next to Longy Bay.

approach (Symonds 2015b). This raises the possibility that the high ground occupied by the Yorkshire fortlets was in part a compromise inspired by a desire to lessen the manpower commitment by using the minimum number of soldiers to control the maximum number of landing grounds.

Notions of the Yorkshire installations serving as links on a signalling chain are intimately associated with the central towers, which are frequently interpreted as monumental elevated beacon platforms. The pros and cons of such an arrangement have been extensively rehearsed elsewhere (see Haverfield 1912, 206; Wilson 1991, 146; Bell 1998; Ottaway 2000, 188–189; Hind 2005), but it must be stressed that the notion that there is a direct correlation between the need for such signalling platforms and the presence of these towers is unsustainable. Filey is intervisible with Scarborough at ground level, and so does not need a tower to create a visual link with its neighbour. Equally, if the presumed structure at Whitby was to communicate with Goldsborough a soaring 45m-high tower would be needed (Bell 1998, 316–319). As Hind observed, with some understatement, such an arrangement is ‘hard to justify’ (Hind 2005, 20). If signals were transmitted inland to the fort at Malton the garrison would be able to reinforce the fortlets, but there are no convincing traces of the infrastructure needed to relay such messages across the Yorkshire moors (Ottaway 2000, 189). This omission prompted the admission that ‘on locating an enemy ... it is not clear what happened next, although one presumes that land-based forces were in some way alerted’ (Ottaway 2000, 188–189). It is most probable that the land-based forces in question were those

already garrisoned within the fortlet, and that the enemy was expected to comprise raiding parties or pirates sufficiently small in number that the garrison could engage and destroy them independently (Collins and Symonds forthcoming).

Precisely when the Yorkshire fortlets were founded remains a source of debate, with the dating evidence from Filey consistent with construction under Valentinian I (367–375), Magnus Maximus (383–388), or Theodosius I (379–395) (Ottaway 2000, 186; see also Collins and Symonds forthcoming). The circumstances of their abandonment are equally obscure, but the traditional narrative has been that these installations and their garrisons met a dramatic demise. Human bones were found at Huntcliff and Goldsborough, and the excavators of the latter penned a particularly vivid vignette:

In the south-east corner [of the tower] we made discoveries that can only be described as sensational. A short, thick-set man had fallen across the smouldering fire of an open hearth, probably after having been stabbed in the back. His skeleton lay face downwards, the left hand, on which was a bronze ring, behind the back, the right touching the south wall. Another skeleton, that of a taller man, lay also face downwards, near the feet of the first, his head pointing south-west. Beneath him was the skeleton of a large and powerful dog, its head against the man's throat, its paws across his shoulders – surely a grim record of a thrilling drama. . .

(Hornsby and Laverick 1932, 210)

Despite the appeal of such graphic testimony, Rob Collins has noted signs of later reconstruction and the presence of bodies may be due to the towers finding an afterlife in the post-Roman period as *mausolea* (Collins and Symonds forthcoming). Given this possibility, it is intriguing to note that human body parts were also found buried in the tower at Moers Asberg (Krause 1974, 164). In contrast, the defences of the headland on which Filey lies were strengthened during the post-Roman period (Ottaway 2000, 192), implying that the fortlet may have retained its value as a fortification. Given Scarborough's comparable setting and particularly impressive command of the local coastline, it should be wondered whether this installation also had a martial utility that outlasted the Roman period.

STORMY WATERS

All of the installations considered here feature a substantial tower with internal postpads, which is positioned either centrally within or astride a stone rampart probably or definitely equipped with corner bastions. The total area enclosed within the rampart varies, and in the case of the 'fortified landing grounds' is rarely known for certain, but it is possible that their sizes were broadly similar. Although the purpose of bastions appears to have been misconstrued by the

building teams in Yorkshire and on Alderney, while a portion of the 'fortified landing grounds' may have been left open to accommodate jetties, this repetition of the same architectural ingredients would fit with these installations being planned to endow their garrisons with comparable capabilities. It seems likely that the soldiers were garrisoned within timber barracks outside the towers but within the masonry ramparts, and that most of these installations form components of a strategy to deter or destroy raiding parties and pirates either beyond or as they attempted to enter Roman territory.

The purpose of the large towers remains uncertain, but the possibility that they acted as emplacements for artillery weapons bears serious consideration (Wilson 1991, 146). This could be viewed as an evolution from the use of missile troops in some early towers and riverside fortlets. The anonymous author of the *De Rebus Bellicis*, a fourth-century military treatise, provides a lengthy description of an artillery piece called the 'lightening ballista'. The writer boasts that 'a missile projected from this weapon...even has the momentum to fly across the width of the Danube...' (*De Rebus Bellicis* 18, 1–5), implying that this device was deployed along watercourses. Both the decision to design the majority of the 'fortified landing grounds' so that this tower projected beyond the rampart and the apparent fear for their structural stability in Britain would be compatible with a weapon housing.

Ratcheting up pressure on landing grounds along stretches of the British shoreline far from hostile coasts presumably heralds either the emergence of raiding parties equipped with more reliable ships, who could count competent navigators among their number, or waning military control of the sea lanes. Rome's status as the undisputed naval power in British waters seems to have been diminishing from the third century onwards. Previously, the *Classis Britannica* and a handful of additional naval units had been deemed capable of safeguarding the island's shores, apart from those opposite visible, unpacified terrain, without resorting to land-based fortifications. By the end of the third century, major ports around southern Britain lay in the shadow of imposing next-generation Roman forts, while by the late fourth century even modest landing grounds further north on the east and west coasts were garrisoned. This could suggest that their assailants were not reaching them via the raiding equivalent of cabotage and simply leap-frogging down the coast. If Roman naval power retained any potency, then raiders approaching North Yorkshire from, say, north of Hadrian's Wall should have been detected and dealt with either before they reached Huntcliff or on the return journey. Instead, it is tempting to see the drive towards making landing grounds more generally defensible as a precursor to the situation in the Anglo-Saxon, medieval, and Early Modern eras. This was a world where a ship could appear on any horizon, at any time, for any reason. The construction of sophisticated late fortlets on the east and west coasts could be seen as a first, tentative step

towards grappling with a new age of maritime warfare; one that would ultimately redraw the political map of the planet.

From Empire to Ashes

It remains difficult to see the re-emergence of cordons comprising small installations in Continental Europe during the third century and Britain in the fourth century as components of a 'defence in depth' strategy. This demands highly fortified strongpoints stretching far inland, but by Luttwak's own measure the defences of the late-third-century fortlets on the Cologne–Bavay road and around Zülrich rules them out from fulfilling such a role. Although the later masonry installations established along the Cologne–Bavay road would be a better fit, there is no reason to doubt that these posts represent the routine replacement of turf and timber structures in stone because they were still needed. It is striking that the majority of the most sophisticated defences lie on the edge of Roman territory, and the appearance of outpost-style cordons to their rear is most easily explained by a resurgence of the low-level insecurity they were best able to combat. The marked lag time between the re-emergence of such networks in Britain and on the near Continent is best viewed as a consequence of local security deteriorating at different times. If so, then Britain remained comparatively stable for almost a century after the first spike in insecurity registers in late-third-century Germany and France.

Although the impressive masonry fortifications representing the apogee of defensive technology receive the bulk of scholarly attention, the full gamut of techniques was employed during this period. The small earthwork and, possibly, palisade enclosures on the Stainmore pass, for instance, appear inferior to first- and second-century outposts, let alone the broadly contemporary masonry coastal fortlets. It is tempting to link these differences to assessments of likely duration of need. By this reading, the turf and timber Stainmore pass posts could be seen as a short-term measure to restore security after an episode of disruption, while the more durable coastal fortlets were viewed as an open-ended commitment. If so, this would amount to a tacit admission of the difference between internal and external threats. While bandits preying on traffic crossing the Stainmore pass could be tracked down, there was no military option to stem the flow of coastal raiding at its source. Instead, the perpetrators were only within the military's reach while the incursion was underway. That efforts were still made to break up raiding parties before they reached Roman territory is implied by the existence of the 'fortified landing grounds'.

It is illuminating to contrast the continued vitality of what are arguably recognisable fortlet forms with the widespread obsolescence of the classic, early fort design in Western Europe. The wide currency of the one-size-fits-all

design broadly adopted by early forts can be viewed as an act of hubris. At its heart, this general refusal to tailor the defensive perimeter to the topography betrays a stubborn disregard for local factors, which presumably sprang from overwhelming confidence in the pre-eminence of Roman arms. Rather than replacing this ‘playing-card’ model with a smaller version appropriate to reduced unit sizes, a plethora of new designs emerge in the late period. This step away from the standardisation of earlier centuries is emblematic of a new interest in wringing every possible advantage from the local environment. As we have seen, even the generic components of the combined tower and fortlet models were carefully adapted to meet local requirements. Although this increased pragmatism presumably owes much to the frequent bouts of civil war that pitted Roman soldiers against Roman soldiers, a heightened sensitivity to local context indicates that the tenets successfully governing fortlet use for centuries were being applied to military fortifications more widely. By shrinking the late forts, employing bespoke designs, and engaging more robustly with the landscape, these installations were essentially adopting the core attributes of early fortlets. Given the emergence of a dedicated frontier force, this development should not be surprising: exerting close control over a border line had always been best achieved by cordons of small installations, rather than relying on larger forts set at far greater intervals. Indeed, the extensive use of abnormally small forts on the Antonine Wall suggests that an initial step towards embracing this reality came as early as the second century AD.

In recent decades, the nature and impact of the collapse of centralised Roman authority in the provinces has received considerable attention (see Wilmott 1997, 224–231; Wilmott and Wilson 2000; Collins 2012; Collins et al. 2015). Increasing numbers of forts along Hadrian’s Wall and to its south have produced evidence for occupation stretching well beyond the notional end date of imperial control in AD 410. Precisely how long these forts remained inhabited, and what role they played in the emerging power structures of the post-Roman world remains keenly debated. One increasingly popular model is that these Roman garrisons gradually mutated into early medieval warbands (Wilmott 1997, 225–227). It is fair to say that the role of fortlets in the imperial twilight has received less attention. Their longevity seems to be tied in part to the durability of their fabric, as there are few signs that small turf and timber installations were reused following the collapse of centralised authority, although at Old Burrow, Devon, the fortlet earthworks were employed in a post-Roman field system (Hegarty and Wilson-North 2014, 87). Effectively, the fate of fortifications originally intended to act in unison to protect whole provinces became dependent on purely local needs.

On the Yorkshire Coast, the headland at Filey was refortified in the post-Roman period while the Nunnery has supported a succession of subsequent

military measures (see Box 9; Ottaway 2000, 191–192). Goldsborough and Huntcliff, though, may have served their communities in a new way as *mausolea*. In the Rhineland, the coin sequences from Asperden and Moers Asberg terminate at the end of the fourth century, and the presence of human bone buried within the latter could indicate that it also became a sepulchre. Nevertheless, coins are not always a reliable guide to abandonment. The numismatic sequence from a late fortlet overlooking the confluence of the Danube and Inn at Passau, Bavaria, indicates that the last cash payments arrived c. AD 375. Pottery and brooches, though, reveal continued use well into the fifth century (Niemeier 2015, 215). Such a chronology makes it conceivable that the home fires were still burning at Passau when Romulus Augustus, the last emperor in the west, was quietly retired in AD 476 by Europe's new, 'barbarian' masters.

CHAPTER NINE

IMPERIUM BY OUTPOST

This book opened with Bassus confiding in his comrade Galates that he was concerned for their safety. Further *ostraca* bluntly disclose that such a fear was not fanciful. Fragments of terse reports documenting military action against ‘barbarians’ in the frontier zone spell out that these engagements could result in grievous injury or death. On at least one occasion, the ‘barbarians’ were sufficiently aggressive to mount an overnight siege of a fortlet. The seemingly wide circulation of the report describing this attack may suggest that direct action against a military post was the exception rather than the rule, but it also indicates that outbreaks of what we now call ‘guerrilla warfare’ were not unknown in the Egyptian Eastern Desert. On another occasion, garrison members were called upon to pursue a group of camel rustlers, who put up enough of a fight to repulse professional soldiers. The range of motives implied by these incidents of aggression and theft can leave us regretting that the army was not more specific with their nomenclature, instead of frequently dismissing both enemy combatants and thieves as simply ‘barbarians’. They also hint at the day-to-day complexity of life in the frontier zone. On one hand, the presence of military garrisons in the desert enabled the army to mount a – seemingly abortive – attempt to recover stolen property. On the other, the presence of a military post could, itself, be a catalyst for violence. Bassus’s observation that ‘we are not very many here’, hints that he is worried that the garrison itself could be overwhelmed. How justified Bassus was in this concern

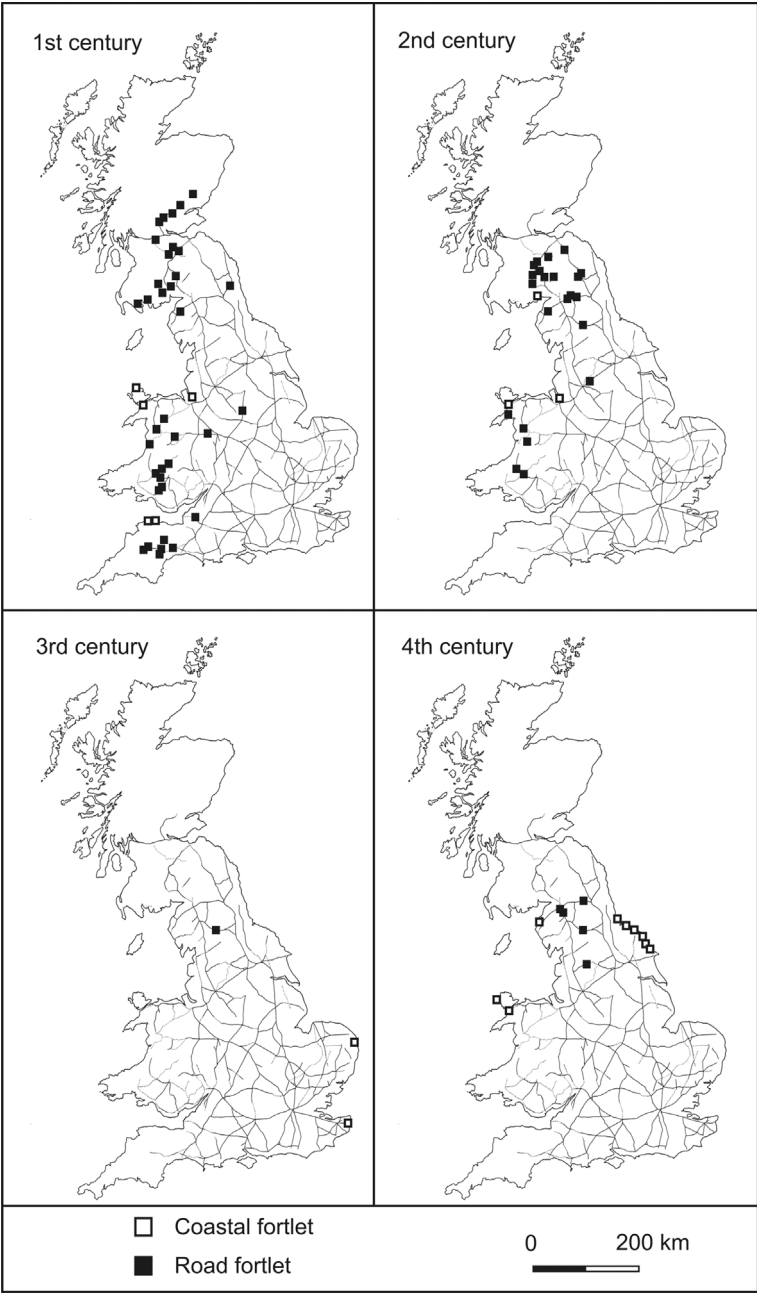
is central to understanding outpost use. Did the military simply despatch small groups of soldiers to trouble spots and hope for the best?

Accepting that a degree of risk was integral to outpost duty helps to explain a certain lack of enthusiasm for such a posting in surviving contemporary correspondence. Contrary to traditional views of freestanding fortlets and towers being of limited utility and even less interest, the evidence from the north-west provinces consistently points to them being critical to achieving close control of areas where security was contested. The acute vulnerability of small military garrisons that so exercised Bassus emphasises that outposts were best suited to consolidating and perhaps pacifying territory and building stability, rather than frontline service during bouts of active campaigning. Although the day-to-day drudgery of fortlet duty was less glamorous than the drama of a pitched battle, the onerous process of crafting a territory that could be governed was every bit as important as the force of arms that delivered it into Rome's grasp. It also required a more nuanced approach, as engaging and destroying an army requires a different skillset than filleting disruptive or hostile elements from a population without alienating the wider community. Unless there are massive gaps in our knowledge of outpost distribution, it is clear that the numbers and nature of outposts established in the aftermath of conquest varied from region to region. Given Emperor Trajan's reluctance to fragment units, presumably because of its deleterious effect on morale, it is probable that these discrepancies are attributable to such installations only being established where they were actively needed. Such apparent sensitivity to local stimuli means that rather than representing generic garrisoned points, fortlets and towers should be perceived as part of a targeted solution to a specific problem or problems.

FORTLET VARIATIONS

This fluctuating need for small, dispersed military garrisons permits a valuable insight into the mood, or at least stability, of different regions after the cessation of full-scale conflict. While we must be mindful that the small size and fragile fabric of early turf and timber outposts leaves them vulnerable to obliteration, making it certain that additional examples await discovery, there does seem to be a logic to their known distribution. The limited number of early fortlets founded in the Raetian Voralpenland and along the roads driven through the territory between the Rhine and Danube, for instance, fits with indications that these were sparsely populated regions. In such circumstances, harm to indigenous interests would be minimised, while the pool of potential perpetrators to disrupt or resist military activity was shallow.

At the other end of the scale, the conspicuous quantity of outposts in parts of Britain, especially Wales and Scotland, provides a potent postscript to ancient



54 The changing distribution of freestanding fortlets in Britain from the first to fourth centuries AD.

historical allusions to the complexities of conquering or holding these territories (Fig. 54). It is harder to judge the significance of anomalies such as the apparent absence of early outpost networks in eastern Britain south of the Stanegate. Marginal upland well suited to the preservation of earthworks is more prevalent

in the west than the east, potentially rendering those outposts more visible today. Even so, the existing distribution clearly implies that consolidating territory was generally more arduous in the western part of the island than the east, and it would be tempting to associate this in some way with the proximity of Ireland. Similar differences between early outpost use in Britain and north-west Europe are not only manifest in raw numbers, but also in the ingenuity expended on building structured control systems. It does seem unlikely to be a coincidence that the greatest concentration of road fortlets and the most impressive early defensive architecture both occur in Scotland, beyond the limits of where Rome was able to build a sustainable occupation.

Early freestanding outposts were not just founded along the road system. They were also erected on the banks or shores of major watercourses, such as the Rhine, Danube, and Bristol Channel. There, though, the insertion of a detachment of soldiers could be a consequence of a subtly different imperative. While initial deployment along the road network can usually be attributed to consolidation following expansion into new territory, the founding of outposts on riverbanks and coastlines frequently appears to be a product of looming inertia. In Raetia and Britain, the construction of fortlets along the Danube and the Exmoor coast can plausibly be linked to annexation of the territory to the north being delayed for approximately sixty and twenty-five years, respectively. On the Rhine, too, the earliest outposts coincide with tangible indications that the army's expansionist zeal had been blunted. Although road, riverbank, and coastal outposts all paid the same dividend of tightening military control, the contrast between operating deep within occupied land and right on the edge of Roman territory is an important one. In the former case, it is likely that the source of disruption also lay deep within occupied territory, while in the latter it is more probable that low-intensity threats were seeking to penetrate a *de facto* border. Judging by the distribution of early outposts, it seems that numerous trouble spots existed within Roman territory in Britain, but disruption typically flared on its fringes in Germany and the Netherlands. That such deviations can be detected seems to confirm that subdividing the outposts with reference to the contexts in which they operated, rather than attempting to devise a size- or design-based typology is an appropriate vehicle to explore their function.

Given the wide variety of fortlet designs and the range of internal areas they display, the popularity of devising arbitrary size cut-offs to impose order on them is understandable. At a general level, broad differences can indeed be expressed using size: forts are generally larger than fortlets; larger fortlets typically contain specialist ancillary buildings; small fortlets usually contain primarily barrack accommodation (Walker 1989, 105). Once you move beyond these broad statements, though, and attempt to codify these distinctions using fixed divisions of internal space, one-size-fits-all solutions quickly

break down. This is a testament to the flexibility that fortlets offered. Rather than having to choose between particular models, those responsible for generating fortlet designs had the freedom to create countless variations on the core themes. This meant that detachments sent into the field could be housed in a bespoke fortification calibrated to give them the best chance of discharging their duties effectively. Although it is easy to overstate the homogeneity of forts and fortresses, the range of sizes and designs displayed by early fortlets emphasises that they were alive to the nuances of the local environment in a way that the larger installations were not.

One of the clearest examples of the pragmatic approach to fortlet design is the widespread provision of corner towers in installations founded on riverbanks, and their near-absence elsewhere in north-west Europe. Presumably this anomaly is due to a need for missile troops if terrestrial forces were to have any chance of contesting movement on rivers. The effectiveness of these forces would in turn be enhanced if they had elevated platforms to shoot missiles from. Elsewhere, granaries and oversize service buildings were most common within fortlets on remote stretches of the road network, presumably to ensure that supplies and specialist support facilities were available to convoys travelling through such areas. That design decisions were not just made by a faraway commander is implied by the Antonine fortlets in Scotland, where subtle and varied refinements were probably added by a resident garrison. The sizes of probable freestanding Antonine fortlets in Scotland range from 206m² to c. 3,250m².¹ Unlike most of their peers elsewhere in north-west Europe, many Scottish fortlets display defences that can reasonably be described as hardened. Such a distinction only becomes intelligible when analysis of these installations is grounded in their locality rather than their size.

Just as the design of the fortlets seems tailored to maximise the impact of a modest garrison, so too was their position within the physical – and presumably human – geography. It stands to reason that if small groups of raiders, bandits, or pirates were causing disruption, the military response would be focused on the area where disruption was most keenly felt. This would force the perpetrators to either desist in their activities or risk engaging professional soldiers. One danger with this approach is that it could simply incentivise those responsible to strike elsewhere. Although this would explain why some outpost systems required subsequent modification, examining how freestanding fortlets were placed within the landscape indicates that reading the terrain in order to maximise a garrison's impact was an integral part of the deployment strategy. It is important to acknowledge that this is not unique to outposts, and that celebrating a commander's or emperor's knack for siting forts is a popular

¹ Brownhart Law and Oxtun, allowing 5m for the width of the rampart at the latter.

topos in the ancient literature (e.g. Tacitus *Agricola* 22). Even so, far greater ingenuity appears to have been invested in positioning fortlets. In essence, two approaches to siting them seem to have been favoured: either capitalising on the terrain to control passage through the landscape, or creating a commanding statement of military control.

Road fortlets frequently supervised upland passes, valley openings, and fords, reinforcing their control of movement and communication along high-ways, while simultaneously protecting official traffic. On the coastline, the Exmoor fortlets represent particularly fine examples of visual deterrents, as they were offset from the landing grounds that presumably represent the primary point of concern in order to occupy a striking clifftop location. In many cases these twin desires were combined. Maiden Castle, for instance, was immediate to the road, but also lay on the skyline from the perspective of someone approaching the Stainmore pass from the west. Tower positions were more often constrained by them either acting as satellites for larger installations, or serving as components of wider cordons, and their landscape settings were selected accordingly. The army's willingness to found fortlets 100km or so from the nearest known fort or fortress implies that their garrisons were judged able to operate effectively at a considerable distance from the nearest source of substantial reinforcements. Towers were typically positioned far closer to larger installations, hinting that their small garrisons were rotated far more frequently, or they were deemed too vulnerable when isolated, or providing surveillance coverage was of limited value if there was no larger force nearby to act on the information.

Duty and Desire

It is probable that the members of the garrisons manning the fortlets were just as varied as the installations. Surviving documentary evidence makes it clear that infantry and cavalry served cheek by jowl in the *praesidia*, while the authorities thought nothing of mixing soldiers drawn from different provinces. Although most of the desert *ostraca* were written in Greek, with a smattering of Latin, the soldiers' different backgrounds make it probable that multiple languages could be heard spoken at some fortlets. The surviving documents provide a vivid insight into the duties, vexations, and compensations of outpost life. Perhaps most eye-opening is the constant circulation of information, with near-daily military despatches keeping the garrisons abreast of developments. Surveillance, intelligence gathering, and combat undertaken by the detachments also fed into this ever expanding and updating pool of knowledge. Cavalry were an essential element of the desert garrisons, providing relay riders, escorts, patrols, and combatants. This reliance on a mounted element is probably applicable to fortlet use more widely, as the rapid transmission of

intelligence and enhanced patrolling they permitted delivered tangible benefits. Finds of horse tackle in European installations support the presence of cavalry in at least some instances. Equally, the technique of positioning an 'interval' fortlet approximately midway between two forts employed in Wales, Scotland, the Pennines, and perhaps on the Antonine Wall suggests an attempt to accelerate military communications and ease patrolling by halving the distance for each horse and rider to travel.

The Egyptian *ostraca* indicate that the troops within the *praesidia* were ordinarily detached from *auxilia* units rather than the legions. There is little direct evidence for the source of the soldiers in the European fortlets, although the helmet found near Burlafingen, an inscription recorded at Maiden Castle, and inscribed altars associated with some milecastles could tentatively be taken to imply a degree of legionary involvement. The *auxilia* reputedly prized recruits from rural backgrounds, and soldiers serving in outposts certainly display skills that could have been honed during their formative years: hunting, fishing, and/or foraging. Their background might even have encouraged empathy with the needs of local farming communities. Other activities attested in fortlets include textile manufacturing, metalworking and smelting, antler and bone working, and quite probably animal husbandry. Supplementing military rations and developing lucrative cottage industries may have been desirable wherever soldiers were based, but these talents would have been especially valuable in more isolated fortlets. In cases where problems could not be resolved on site, it may have taken days to source a remedy from a fort. While this would be inconvenient in a fortlet, it could be catastrophic for a convoy stranded by mechanical faults in a region where security concerns existed, which is presumably one reason why fortlets equipped with expanded service facilities were installed on some remote roads.

Alongside these industrious activities, the *ostraca* indicate that the fortlet garrisons had a weakness for dubious financial schemes, drinking, and whoring. The archaeological evidence for gaming counters and boards suggests that gambling should also be added to that list. Of these vices, prostitution is arguably the least archaeologically visible, but the Egyptian correspondence indicates that it was widespread. Although it is ambiguous whether soldiers' partners, children, or slaves routinely accompanied them to fortlets, there are clear indications that it could happen. Some soldiers' concubines and slaves found themselves working in the desert sex trade, while additional prostitutes were supplied by a local pimp. Any involvement of local women in the trade could conceivably have harmed community relations, as would drunken brawling with or extortion of locals. Despite the risk that the darker side of soldiering could aggravate rather than ease tensions with indigenous groups, the indications that most early fortlets were only occupied for a decade or two implies that in the vast majority of cases outpost detachments were a highly

effective means of neutralising low-intensity disruption without alienating the wider local population.

REGULARITY VERSUS IRREGULARITY

Given the apparent success of this flexible, pragmatic, and informed approach to designing, garrisoning, and positioning outposts, the regimented approach implemented along Hadrian's Wall seems almost perverse. Although there is a trend towards the end of the first and early second century for more complex outpost systems, it had previously been the towers, rather than the fortlets, that were overtly sublimated to the needs of the wider system. All of the Gask Ridge, Stainmore pass, and Stanegate fortlets respected the fort-fortlet-fort pattern widely employed elsewhere on the British road network. Although Trajanic fortlets cannot be identified with certainty on the Upper German *limes*, the strongest candidates occupy topographically sensible locations. Hadrian's Wall therefore represents the earliest, and most radical, attempt to rework fundamentally the basic tenets of fortlet use in order to tighten frontier control. The regular spacing and stock design templates robbed the milecastles of the two facets that were exploited to such effect by freestanding fortlets. Binding the turrets into the regular spacing system also denied them the flexible relationship with the terrain that was best able to deliver an efficient and effective surveillance screen. The collision of this spacing system with the terrain in the central sector meant that despite the short intervals between outposts, blindspots occurred along the curtain (Foglia 2014, 40). Only a handful of milecastles appear to have been prioritised during construction, but many more north gate towers were seemingly fast-tracked, implying that a tower was sufficient to deliver temporary control over the frontier line (Graafstal 2012, 131).

The surprisingly high ratio of milecastles to turrets is also unprecedented. It can plausibly be explained as a measure to ensure there were sufficient posts capable of mounting patrols and countering unauthorised access, alongside those better suited to undertaking surveillance and perhaps providing a raised platform for missile troops. The sizable indigenous population settled in the region bisected by the Wall, the commensurate harm to their interests that the new frontier posed, and the humiliating usurpation of local leaders' authority over ancestral land, could all have made the proximity of fortlet-size garrisons seem proportionate. Although we cannot reconstruct the decision-making process of the groups living in the nascent frontier zone, study of African responses to European colonialism has emphasised the fluid nature of local reactions there: 'Virtually all African states made some attempt to find a basis on which to collaborate with the Europeans; virtually all of them had some interests or values which they were prepared to defend; if necessary, by

hopeless resistance or revolt' (Ranger 1969, 304–305). Naturally this does not prove anything about attitudes among groups living on the Tyne–Solway isthmus in the early second century AD, but it is difficult to see how many pressure points these populations could have that would not be activated by the imposition of the Wall and its garrison. The belated addition of auxiliary forts to the frontier implies an unexpected need to enhance its assault and forward defence capability. Such a significant revision to the initial concept would fit with a serious military convulsion. Given the evidence for a cessation in construction work on the frontier prior to a wide-ranging rethink, which also revisited the relationship between milecastles and turrets and the topography, it seems plausible to link these developments with the tentative indications of a second Hadrianic war in the 120s.

The Upper German *limes* displays a different approach to using outposts to achieve border security. Although the intervals between the towers lining its course are not far off those employed on Hadrian's Wall, this heightened flexibility permitted a more effective surveillance system. The *limes* fortlets typically occupy valley openings, mountain passes, and good vantage points, and appear to be most numerous in the areas where local groups lay closest to Roman territory, and therefore where the risk of illicit crossings was greatest. Taken together, these factors emphasise that outpost deployment along the Upper German *limes* was based on a dialogue between military goals and the physical and human geography. In essence, this border system applied the model established for fortlet and tower use in the first century AD on an unprecedented scale. It may be significant that the progenitor of the Upper German outpost cordon appears to have been Emperor Trajan, with Hadrian supposedly contenting himself with installing a cohesive linear barrier in the form of a timber palisade. If so, Hadrian's famous Wall is not only a rejection of established fortlet practice, but also his predecessor's less structured approach to frontier control.

Although Trajan's Upper German frontier made more efficient use of resources than Hadrian's tour de force in northern England, the earlier emperor enjoyed a significant advantage. The lower indigenous population density in the vicinity of the German frontier surely simplified the challenge of achieving border security. This fundamental difference in context presents the most plausible explanation for the varying scale of the German and British *limites* observed by Mommsen. Even allowing for this, though, it is hard to argue that the method of carefully calibrated responses to local needs the Upper German *limes* exemplified was second-rate compared to the aggressive uniformity employed to control far larger numbers on Hadrian's Wall. Indeed, the belated loosening of the spacing system and generic installation plans represent tacit admissions that a topographically informed approach is superior. Despite its inefficiencies, the version of Hadrian's Wall that emerged from the

construction process appears to have been highly effective at reducing infiltration. The freestanding fortlets to its rear seem to have been gradually abandoned as local stability took root. By the beginning of the third century, Maiden Castle was the only known fortlet south of Hadrian's Wall that was probably still in service (Fig. 54). For the first time, Britain had achieved the 'outposts on the edge' pattern visible in Germany and the Netherlands over a century and a half earlier.

Despite a longstanding belief that the Antonine Wall represents a carbon-copy of the post-fort-decision version of Hadrian's Wall, there are reasons to believe that the new frontier sought to improve on its predecessor and respond to different local dynamics. Indeed, a case can be made for the Antonine Wall taking the increased interest in topography apparent in the latter stages of the construction of Hadrian's Wall to its logical conclusion. Even though the Antonine Wall traversed difficult terrain, it is noticeable that the proven fortlets broadly avoid the compromised positions occupied by some milecastles, and that in many cases they either act as satellites to the forts, or replicate the fort-fortlet-fort pattern encountered on the road network. Indeed, when looking at first- and second-century Roman military control systems in Britain that incorporate both forts and fortlets, it is clear that there is a broad continuity of approach, with one or occasionally two or three fortlets positioned between each fort. Although the distances between the installations can vary considerably, from 13km or more in Wales to c. 1.5km on the Antonine Wall, the only major exception to the 'interval fortlet' template is Hadrian's Wall. This anomaly may be explained by the decision to add the forts only occurring after work on the milecastle and turret cordon was well advanced. Whatever the reason, this departure from established norms in Britain once again emphasises the exceptional nature of Hadrian's Wall.

Intriguingly, the new border established in Raetia during the late Antonine period seems to move away from the pragmatic localism embodied by the Upper German *limes*. Although our knowledge of turf fortlets along this frontier is almost non-existent, it is interesting that their masonry successors appear to be variations on a single generic template in a fashion more reminiscent of the milecastles and Antonine Wall fortlets. Conceivably, then, by the Antonine period the optimal approach to frontier control was judged to require more integration than the Upper German *limes*, but rather less than was enforced on Hadrian's Wall. As neither of these earlier frontiers were substantially overhauled to reflect this 'third way', it can be assumed that the benefits were modest.

Despite different techniques being employed by all four of the artificial frontiers studied here, it is likely that the outposts along the Upper German *limes*, Hadrian's Wall, the Antonine Wall, and the Raetian *limes* were all intended to achieve the same goal: the detection and prevention of infiltration

by either low-intensity threats or groups that could be deterred by the presence of small numbers of professional soldiers. The distinction between tower and fortlet use in Upper Germany indicates that the garrisons manning these installations fulfilled different roles. The *limes* towers were well positioned to undertake surveillance of the frontier line, and presumably communicate their observations to more sizable forces when necessary. If desirable, missile troops could be employed to control their immediate vicinity. Fortlets appear intended to play a more robust role. Setting them further back from the linear barrier, frequently using them to block natural passages crossing the frontier line, and concentrating them in areas where 'barbarians' were settled closest to the frontier, maximised the garrisons' ability to intercept and destroy small groups that had illicitly entered Roman territory. Although such overt differences between tower and fortlet use is less apparent in Britain, a comparable division of labour is a strong possibility. On this basis, the fortlet and tower garrisons were primarily responsible for securing the border line, while the greater numbers concentrated in the forts could undertake forward defence in the wider frontier zone.

German frontier fortlets do not ordinarily seem to have controlled gateways through the frontier barrier. Although much remains unknown about the passages through the Upper German and Raetian *limites*, it does seem certain that towers were usually considered sufficient to police them. At first sight this represents a radical difference from Britain, where the portals through the frontier formed part of the fabric of milecastles and Antonine Wall fortlets. This divergence seems to have been short lived, however. From the very beginning, milecastles could be brought into operation without north gateways, while at some point the causeways opposite all but one of the Antonine Wall fortlets appear to have been eliminated and at least some of their north gateways narrowed. This development neatly foreshadows an identical development on Hadrian's Wall in the later second century. For the majority of their operational life, the north milecastle gateways consisted of narrow passages that seemingly only provided access to the berm between the Wall curtain and ditch. If the reduction of the milecastle gateways brought the frontier closer in style to the Upper German and Raetian *limites*, though, the cull of Wall turrets marks a step in the other direction. It is unclear what circumstances led to a reduction of surveillance coverage along Hadrian's Wall, but perhaps resources were redeployed to the areas where they would have most impact, increasing regional differences along stretches of the border.

AND IN THE END...

The reappearance of sophisticated outpost-style systems stretching deep into Roman territory west of the Rhine broadly coincides with the collapse of both

the overall Upper German *limes* sometime after AD 266, and the secessionist Gallic Empire in AD 274. Whether this renaissance should be perceived as a tribute to the erstwhile effectiveness of the land *limites*, or simply a mechanism for the reassertion of imperial control is unclear. What does seem certain, though, is that the design of these new posts makes them more intelligible as a means to combat low-intensity disruption than elements of a new 'defence in depth' strategy. The scale of upheaval is indicated by the new systems bearing a closer resemblance to areas of immediately post-conquest Britain than anything known to have previously existed inland from the Rhine. That this was not merely a choreographed expression of dominance by the resurgent imperial authorities is suggested by the divergent fates of the Zülpich and Bavay road fortlets. While most of the former seem to have gone to seed after a short occupation, many of the latter enjoyed a lasting utility and were superseded by masonry installations. Equally, while Gaul, Spain, and Britain were also part of the breakaway confederation, Aurelian's reassertion of imperial control was not followed by a flurry of outpost construction elsewhere.

Although two fortlets were seemingly founded on the south-east coast of Britain in the third century, it was about 100 years later that small fortifications reappeared on the roads to the south of Hadrian's Wall. Even then, the relatively vestigial cordons they created and focus on the edges of Roman territory are more reminiscent of early fortlet use in Germany (Fig. 54). When it comes to establishing the root cause of this inversion of Britain and the near Continent's original internal security fortunes, the most obvious variable is that the artificial land frontier held in Britain and disintegrated in Germany. Perhaps those elements of Hadrian's Wall that invite suspicions of overkill when compared to its second-century peers paid dividends in the fourth century. There is certainly a strong chance that the reappearance of road fortlets in Britain owes more to the increasingly confident incursions by maritime raiders or local disruption than groups crossing Hadrian's Wall. That said, it is equally conceivable that the Wall was so successful at curtailing overland access that it accelerated the acquisition of the seamanship displayed by groups assailing Britain.

Ultimately, these maritime raiders were met by the most sophisticated Roman military outposts ever constructed in Britain. These cutting-edge installations were erected at potential landing or launching grounds in the second half of the fourth century AD. Although these fortifications were clad in stone rather than turf, their relationship with the terrain is recognisable as an extension of earlier outpost techniques. The layout of the Yorkshire and Alderney installations presents a botched version of a design widely used in Continental Europe, which essentially set a monumental tower within a fortlet-style compound. Comparable, though more adeptly executed examples of these installations occur along the Rhine and Danube, and also occasionally

inland from them. The variant, so-called fortified landing ground form was probably used to plant fortlet-size garrisons in secure compounds with associated mooring facilities on the 'barbarian' riverbank. This would permit a much-diminished form of forward defence by allowing raiding parties to be intercepted before they interfered with river traffic or entered Roman territory. Looking at the late Roman commitment in the British Irish Sea zone, it is probable that local commanders would dearly like to have established such outposts on Ireland, too, if it was only practical.

Another striking feature of the late period is the degree to which the next-generation forts cribbed from established fortlet techniques. Smaller garrisons, more restricted specialist facilities, and less overt architectural trappings reinforcing rank and unit cohesion are all characteristic of both groups. Although the scale of late fort ramparts is well beyond anything discernible in previous centuries, the willingness to tailor defences to the topography is a logical development of the synergy between fortifications and landscape attempted by many earlier fortlets. A case can be made for the sensitivity to local factors displayed by early fortlets being attributable to the inherent vulnerability of small groups of soldiers in the event of a major attack. As a miscalculation could result in the loss of a garrison, there was an impetus to ensure that the fortlets were as closely synced with local needs as possible. The more parlous military situation along some frontiers in the late period, coupled with smaller unit sizes, meant that this imperative now applied to forts as well as fortlets. Put simply, the generic early fort template was the luxury of a military that could afford to be complacent about its martial supremacy. By this measure, the new-look fourth-century forts on the Rhine and Danube mark a final step in the journey that began in the first century AD when military units configured for advance first began to be fragmented along the river channels. By the late period, Rome's European field armies were more preoccupied with retaining control of existing territory than campaigning beyond the Empire's borders. Restricting forward defence capabilities in this way left the frontiers vulnerable, as the soldiers constructing the original version of Hadrian's Wall may well have learnt the hard way centuries earlier.

ROME'S SMALL WARS

With only a few exceptions, this analysis of Roman fortlet use has shied away from making explicit analogies to more recent conflicts. This is partly because it is widely appreciated that the incalculable differences between the present day and the Roman Empire make 'comparisons risky at best and naïve at worst' (Hitchins 2016, 22), while the surviving written evidence consistently points to fortlets being employed to counter low-intensity disruption to official interests caused by barbarian raiders, bandits, pirates, or, at worst, rogue

groups engaging in guerrilla warfare. However, it is appropriate to observe that some of the outpost networks established within Roman territory bear a resemblance to what would today be termed counterinsurgency measures. Counterinsurgency is generally understood to involve asymmetric warfare between regular and irregular forces (Callwell 1996, 21). Such conflicts are an occupational hazard, quite literally, for colonial powers and are frequently termed ‘small wars’ (Keaney and Rid 2010, 3). Rome is often judged to have sidestepped such actions by waging counter terror, rather than counterinsurgency, using occasional massacres and other atrocities to instil fear and obedience (Porch 2013, 3). Nevertheless, there are some intriguing parallels between ancient practice and more recent techniques. The argument that ‘Indigenous resistors to [the West’s nineteenth-century] civilising ministrations were delegitimized as thugs, bandits, criminal tribes, bitter-enders, or fanatics’ (Porch 2013, 2), for instance, eerily evokes Roman descriptions of low-intensity irritants. In a similar vein, the exasperated author of the famous Vindolanda report about mobile *Brittunculi* could offer an early example of a practitioner of conventional warfare struggling to adjust to the new rules of ‘small wars’ (Hitchins 2016, 21), a trope that has become something of a counterinsurgency cliché.

Lazare Hoche’s 1794 campaign to crush resistance to the French Revolution is widely regarded as a forerunner to modern counterinsurgency operations. Shunning the scorched-earth terror tactics of his predecessors, Hoche’s approach included dividing ‘the theatre into sections, each with its network of posts linked by mobile patrols, informed by an active intelligence service. The fittest soldiers were organized into fast-moving mobile columns that hunted down and surprised hardcore bands of insurgents’ (Porch 2013, 5). As the archaeology and *ostraca* make plain, these are essentially the tactics employed by the Roman army in the Egyptian Eastern Desert. Two recent commentators, when discussing six techniques that could hamstring a successful counterinsurgency campaign, listed in first place ‘a preference for quantitative methodological rigor over qualitative local knowledge’ (Rid and Keaney 2010, 5). The fluctuating form, location, and garrison composition of fortlets were well calibrated to sidestep precisely such a pit-trap. Of course, such resonances may be coincidences, but on balance it seems likely that the Roman military pioneered what were effectively ‘small war’ strategies. If so, knowledge of them died with the Empire. Such a loss would, however, certainly not be the only time that conventional warfare has eclipsed its asymmetric flipside in both military planning and the popular imagination (Keaney and Rid 2010, 1; Alderson 2010, 40).

Within north-west Europe, it is southern Scotland, and in particular southern Scotland during the Antonine period that can most convincingly lay claim to witnessing Roman counterinsurgency techniques in action. There are two

reasons for this belief. Firstly, the enhanced defences that these Antonine fortlets display hint at concern about direct attacks, arguably distinguishing them from posts intended to neutralise raiders or bandits. In such cases the perpetrators would presumably wish to avoid conflict with professional soldiers in order to enjoy the riches or renown that their activities brought. The greater investment in defences in southern Scotland implies that rather than displacing violence, there was a fear that the garrisons would provide a lightning-rod for it. The second reason is more tentative: the indications that the indigenous settlement at Carronbridge seemingly continued to prosper, despite lying adjacent to a major highway in a particularly sensitive area. This implies that the army was discriminating between hostile and friendly, or at least ambivalent, elements within the indigenous population, rather than treating it as a homogenous whole. Such a step could be seen as a logical extension of the broader discrimination between more and less stable regions indicated by the use of differing numbers of outposts in different areas. Despite these signs that the army was pursuing a more intuitive approach to pacifying the population, it still failed to build a sustainable occupation. If the core counterinsurgency tenet of a militarily weaker group attempting to force the hand of a conventionally superior army is applied to Roman Scotland, it suggests that local groups successfully waged asymmetric warfare, regardless of what either side called it.

I Fear for Myself

If Bassus was worried about his post being attacked, then it implies that 'barbarian insurgents' rather than raiders seeking soft targets were his root concern. Whether guerrilla warfare or the bandits active in the desert provided the principal reason for Bassus's presence is a different matter. The dating of his *ostrakon* to AD 108/109 (Cuvigny 2005, 159) indicates that he was writing during the golden age of outpost use. Over half a century of experimentation with freestanding outposts was already informing the ambitious cordon that Trajan was seemingly installing in Upper Germany. This first flowering of the great, artificial land frontiers would be followed in a little over a decade by Hadrian's Wall, and then the Antonine Wall and Raetian *limes*. Despite the different techniques these systems use, the ambition and confidence with which outposts were employed is a constant theme. The success of these frontiers is ably demonstrated by the gradual obsolescence of the freestanding outposts to their rear, indicating that low-intensity disruption withered away within Roman territory. By the time freestanding outposts reappeared in Europe, Rome had ceded the military initiative. When the final European frontier line along the Rhine and Danube began to buckle, it was surely because the odds facing Bassus's successors needed to be met with armies,

not outposts. In contemporary parlance, 'small wars' were becoming 'continental wars'. The ultimate failure of these systems can be attributed to something that Roman armies always seem to have appreciated: small, dispersed garrisons were too easy to destroy during episodes of open warfare.

We do not know whether Bassus survived his spell in the desert, or if he was destined to end his days as collateral damage in Rome's drive for provincial security. But we can be confident that if Bassus's post, or any other, was overwhelmed by a massively numerically superior force, it was because the garrison became embroiled in a conflict far greater than it was designed to weather. All of the available evidence suggests that such lapses of judgement were few and far between. For centuries fortlet garrisons, often acting in conjunction with towers, proved adept at resolving security concerns, consolidating Rome's hold over local communities, and controlling borders. If the worst did happen, though, knowing that the miscalculation was an anomaly would have been cold comfort for Bassus.

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INDEX

- aedes, 9–10, 51
 Agricola, Gnaeus Julius, 59, 67, 71, 96
 alcohol, 28, 183, 219
 Alesia, 33
 Altenstadt, 58
 Am Forsthofweg, 199
 amphora, 28, 64, 182
Anavionenses, 20, 81
 Annandale, 20, 81–85, 146
 Antonine Wall, 4, 8, 78, 85, 93, 127–128, 131, 152, 154, 162, 164, 167, 171, 174, 176, 219, 222–223, 227
 Antoninus Pius, Emperor, 125, 137, 150, 154, 163, 170
 Aphrodites Orous, 19, 21, 29
 archer, 6, 15, 87, 121
 architectural fragment, 15
 artillery, 15, 87, 120, 202, 209
 Asperden, 199–201, 203, 212
 Augsburg, 57, 189, 191, 195
 Augustus, Emperor, 37
auxilia, 6, 17, 47–48, 67, 72, 219

 ballista, 120–121, 187–188, 209
 ballista, lightning, 209
 bandit, 16, 22–23, 52, 54, 56, 70, 91, 188, 210, 217, 225, 227
 Bankhead, 72, 86
 barbarian, 1, 18, 23, 53, 77, 95, 162, 177–178, 182–183, 193, 198, 202–203, 212–213, 223, 225
 Barburgh Mill, 28, 51, 82, 85, 89–90
 Barnhill, 83
 barrack block, 2, 6–7, 20, 25–26, 40, 51, 74, 113–114, 117–118, 142, 144, 147, 189, 201, 206, 216
Bassus, 1, 20, 25, 214, 227–228
 Batavian revolt, 39, 58
 Bavay, 183–186, 188, 195, 202, 210, 224
 Beattock Summit, 83–84
 Black Hill, 70
 Boudica, 50, 56, 59
 Bowes Moor, 75, 194–195
 bribery, 2, 24, 115
 bridge, 124
 brigand, 22–23, 56
 Brigantes, 59, 77, 81
 Bristol Channel, 36, 49–52, 216
 Britons, 22, 56, 98, 126
 Brühl-Villenhau, 186–187
 Bürgle bei Gundremmingen, 191
burgus, 12, 23, 199
 Burlafingen, 45, 54, 120, 219
 Burnswark, 87, 98, 137, 146

 Caesar, Julius, 34, 36, 42, 48
 camel, 19–20, 23, 64, 183, 213
 Careg y Bwci, 62
 Cargill, 70
 Carronbridge, 86–87, 137, 227
 Castle Greg, 72
 Castle Hill, Boothby, 100
 Castleshaw, 9, 73, 76, 91, 189
 cavalry, 6, 18, 20, 22–23, 25–28, 45, 47–48, 52, 137, 149, 218–219
 Cerialis, Petillius, 39
 Chew Green, 78, 88, 140, 241
 children, 24, 53, 183, 186, 219
 Civilis, Julius, 39
 Cleddans, 146, 151
 coastline, 193
 shore, 17, 21, 50, 52, 71, 77, 85, 121–122, 149, 179, 192, 198–199, 205, 208, 216, 218
 Cologne, 37, 182–188, 195, 202, 210
 combat, 1, 22, 24, 29, 49, 137, 210, 218, 224
comitatenses, 6, 178
 commander's quarters, 10, 74
 Commodus, Emperor, 23
 Conspiracy, Barbarian, 192–193
contubernium/contubernia, 6, 25–26, 30, 190
 convoy, 16, 63, 74, 78–79, 87, 90, 103, 140, 217, 219
 corner towers, 202
 counterinsurgency, 225–227
 craft activity, 28
 Croy Hill, 139–146
curator, 20–21, 27, 30, 41, 46, 48, 51, 57, 64, 103, 115, 118, 166, 183

- Dalkingen, 171–172
- Danube, 12–13, 23, 33–34, 42–47, 50, 54, 58, 68, 72, 91–93, 97, 152, 158–159, 162, 165–166, 177, 182, 186, 189–191, 197, 199, 201, 203, 209, 212, 214, 216, 224–225, 227
- De Balije, 37
- deer, 46–47, 51
- defence in depth, 179, 186–187, 192, 195, 201, 210, 224
- defence, forward, 123, 131, 151, 175, 179, 197, 203, 221, 223, 225
- Degerfeld, 157
- Dere Street, 56, 78, 81, 88, 112, 128, 182
- desertion, 64–65, 188
- Didymoi, 19, 21, 27, 182
- diplomacy, Roman, 129
- dog, 47, 208
- donkey, 28, 30, 57, 183
- Dumnonii, 49, 53
- Duntocher, 133, 135, 139–144, 146, 151
- Dura Europos, 25, 40
- Durideer, 82, 85–86, 89–90, 191
- duty roster, 26, 28, 30, 51
- duty, customs, 44, 161
- Eastern Desert, 1, 10, 16–20, 24–25, 27, 40, 46–47, 57, 63, 65, 76, 78, 115, 182, 184, 213, 226
- Egypt, 1, 12, 17–20, 22–28, 30, 41, 45–48, 51–52, 57, 62, 76, 78, 103, 115, 147, 182, 184, 191, 203, 213, 219, 226
- Eining, 42, 178, 191
- Elslack, 73
- Elvanfoot, 84
- Engers, 202
- Erglodd, 62
- escort, 27, 90, 92, 218
- Exmoor, 21, 36, 51, 68, 149, 203, 205, 216, 218
- expansions, Antonine Wall, 138–139, 147
- feriale Duranum*, 40
- Filey, 203, 205, 207–208, 211
- fish, 27, 46, 64
- foederati*, 178
- fort, 5–12, 15–18, 21–23, 25, 29–30, 33–34, 37, 39–40, 42, 46, 48, 50–51, 53, 56–57, 59–63, 65–71, 73–74, 76–77, 81, 83–85, 89, 91–92, 96, 98, 100–101, 106–108, 114, 116, 121, 123, 128, 132–133, 136–140, 142, 144–145, 147, 149, 152, 158–163, 165, 167–169, 175, 192–193, 197, 207, 210, 216–219, 221–223, 225
- outpost, 3, 151
- fort decision, 106–107, 112–114, 116–118, 122–124, 127–128, 131, 135, 142, 175, 222
- fort, late, 10, 130, 178, 189, 191, 193, 195–196, 198–199, 209–210, 225
- fort, Numerus, 160, 163
- fortified landing ground, 203, 208–210, 225
- fortlet
- annex, 78–79, 140
- assault on, 52
- concentric, 50, 52–53
- corner towers, 54, 217
- defences, 2, 50, 53, 73, 76, 88–91, 117, 144, 157, 161, 186–187, 191, 194, 201, 210, 217, 227
- definition of, 5–10, 178–179, 199
- design of, 15, 18, 36, 52, 155, 217
- garrison hierarchy, 20–21
- garrison size, 7, 25–26, 44, 54, 74, 142, 187, 201
- ‘interval’, 59, 69–70, 73, 77, 84, 91, 101, 145, 150–151, 169, 219, 222
- interval tower, 45–46, 54
- lifespan of, 11, 23, 91, 210, 219
- outwork, 51–53
- size of, 6–8, 19, 44, 62, 74, 91, 142, 155, 173, 178, 208, 214, 216–217, 225
- spacing system, 81, 136, 151
- subdivision of, 16–17, 216
- fortress, 5–7, 9–11, 16, 20, 34, 36–37, 54, 74, 92, 194, 197, 217–218
- fortress, vexillation, 6
- France, 3, 33, 77, 210
- Frittlingen, 58
- Froitzheim, 186–188, 202
- Galates, 1, 213
- gambling, 28, 219
- game, wild, 19, 46
- Gask Ridge, 65–71, 75, 92, 101, 108, 131, 145, 162, 220
- Gatehouse of Fleet, 71
- Gemsheim–Allmendfeld, 58
- Germany, 3, 34, 36–37, 39, 55–58, 68, 77, 91, 100, 120, 150, 152–176, 210, 216, 222–224, 227
- Gillam, J.P., 133–135, 138, 140, 149
- Goldsberg, 191–192
- Goldsborough, 201, 203, 205, 207–208, 212
- Graben*, Upper German, 165
- granary, 7, 39, 74, 103, 191, 217
- Groot Zandveld, 37
- guerrilla, 22, 54, 57, 90, 213, 226–227
- Haardorf–Mühlberg, 46–48, 54
- Hadrian, Emperor, 113, 116, 131–132, 136, 154, 162–163
- Hadrian’s Wall, 95–133, 135–138, 142, 144–155, 164–165, 167–168, 171–176, 181, 192, 194, 209, 211, 220–225, 227
- Hafan, 59
- Haltwhistle Burn, 100–103
- Hanau–Mittelbuchen, 57, 160
- hangover, 28
- Haselburg, 157, 167, 170
- Hayton, 56
- Hirfynydd, 62
- homosexuality, 25
- horse, 19, 47
- horses, 52, 126, 149, 187–188

- Huntcliff, 203, 208–209, 212
 hunting, 28, 39, 54, 219
 husbandry, animal, 28, 47, 219
- illness, 24
immunes, 26
 in der Harlach, 166
 infantry, 6, 21, 23, 25–28, 45, 53, 87, 218
 intelligence, military, 22, 90, 203, 218–219, 226
 Intercisa, 12, 23
 Inverquharity, 69–70
 Iovis, 10, 41
 Ireland, 59, 71, 85, 216, 225
 Isny, 189–191
- journal, postal, 30, 63
- Kinneil, 139–144
 Kirwaugh, 71
 Knag Burn, 121, 172
 Krokodilo, 27, 29, 48, 63, 76
- Ladenburg, 202–203
 Lahn, 169
 Lantonside, 82, 84–85
latrunculorum / *latrunculi*, 23
 Laurieston, 136
limitanei, 6, 178
 Llanfair Caereinion, 89
 Llety canol, 62
 logistics, 46
 Lurg Moor, 147–149, 151
- Maiden Castle, 73–76, 91–92, 132, 192, 194–195, 218–219, 222
 Marcus Aurelius, 98, 151, 164–165
 Marktveld, 39–40
 Martinhoe, 26, 48–53
 Maximianon, 20, 24, 28
 metalworking
 smelting, 48, 130, 219
 milecastle, 4, 96, 106–125, 127–132, 137, 140, 144–146, 167–168, 175, 222
 altars nearby, 41, 219
 demolition, 117
 design, 15, 109, 133, 142, 149, 171, 192, 220, 222
 garrison size, 25, 115, 117, 123, 129, 171, 220
 gateway, 16, 109–111, 113, 117, 121, 123, 125, 127–128, 130–132, 150, 167, 171, 223
 size of, 109, 119, 123–125, 142
 spacing system, 77, 106–108, 111, 114, 120, 125, 131–132, 220–221
 milecastle 9, 117–118
 milecastle 10, 112, 167
 milecastle 14, 112, 167
 milecastle 22, 128
 milecastle 23, 112, 167
 milecastle 27, 112, 167
 milecastle 29, 109
 milecastle 31, 128
 milecastle 33, 121
 milecastle 34, 121
 milecastle 35, 112–114, 117–118, 130–131
 milecastle 37, 117–118, 128
 milecastle 39, 21, 130
 milecastle 40, 128
 milecastle 42, 109
 milecastle 47, 112, 114, 117, 128, 142, 167
 milecastle 48, 112–114, 117, 142, 167
 milecastle 50 Turf Wall, 117–118
 milecastle 52, 119
 milecastle 80, 121–122
 milecastle, Westgate Road, 128
 milefortlet
 Antonine Wall, 133–135, 139
 Cumbrian Coast, 121–122, 147–148
 spacing system, 122
 milefortlet 1, 122
 milefortlet 17, 122
 milefortlet 21, 122
 milefortlet 23, 122
 Milton, 82–83
 missile troops, 45–46, 54, 70, 120–121, 174–175, 209, 217, 220, 223
 Moers Asberg, 199–201, 203, 208, 212
 Mollins, 68, 72
 Mons Claudianus, 19, 27, 78
 Murder Loch, 83, 85
 Myos Hormos road, 19, 29, 63–64
- Neckarau, 202
 Nepos, Titus Haterius, 20
 Nero, Emperor, 39, 49
 Nersingen, 42–44, 55
 Netherlands, the, 3, 37, 120, 177, 216, 222
 Nithsdale, 71, 81–87, 146
 Nunnery, the, 203–206, 211–212
- Oberstimm, 42–44
 Ockstadt, 199
 Odenwald, 15, 155, 159, 161–163, 172
 Offenburg–Rammersweier, 58
 Ohrenbacher, 58
 Old Burrow, 48–53, 149, 211
 Outerwards, 85, 147–149
 outpost, definition of, 3
 Oxtan, 78, 140
- Palmersheim, 186, 188
 Passau, 212
 patrol, 27, 36, 51, 90, 92, 203, 218, 220, 226
pax Romana, 4, 22, 31, 126, 132, 195
 Peel Gap tower, 120–121, 128
 Pen Llystyn, 62, 74
 Pen y Crocbren, 62, 90

- Penmincae, 59
 Persou, 19, 64
 Philokles, 29, 76
 Phoinikon, 19, 64
 pig, 27, 47
 pimp, 29, 76, 219
 pirate, 54, 71, 192, 208–209, 217, 225
 population, indigenous, 93, 135, 175, 220
 Germany, 91, 176, 221
 Scotland, 227
 population, local, 2, 42, 87, 95, 126–127, 135, 148,
 176, 214, 220
 Germany, 170, 176
 Scotland, 87, 151
 population, nomadic, 19
 Portgate, 109, 128
praesidium / *praesidia*, 2, 10–12, 20–21, 23–24, 27,
 29–30, 33, 40, 46–47, 53, 62–63, 68, 76, 78,
 115, 182–183, 191, 218–219
principia, 9–10, 40, 74, 140, 178, 191
 prostitute, 2, 21, 28, 219
 Pumpsaint, 62, 73

 Raetian *limes*, 154, 159, 164, 166, 169–171, 173–174,
 222, 227
 raider, 192, 198, 201, 209, 217, 224–227
 Redshaw Burn, 83–84, 90
 Regensburg–Harting, 186
 relief, 24–25, 30, 191
 Rey Cross, 194, 235, 242
 Rhine, 33–34, 50, 53–54, 58, 70, 91–93, 152, 158,
 167, 177, 182–183, 187–189, 197–202,
 214–216, 224–225, 227
 rider, 6, 27, 52, 64, 145, 150, 218–219
 Romulus Augustus, Emperor, 212
 Roper Castle, 75
 Rötelsee, 157, 170
 Rough Castle, 8, 133–135, 139
 Rövenich, 186–188

 Saalburg, 160–161
 satellite, 53, 70, 75, 83–84, 101, 146, 150, 195, 218,
 222
 Scarborough, 203–208
 Scotland, 20, 65–68, 71–73, 77–92, 96–98, 100, 123,
 125, 129–130, 136–137, 150–151, 177, 184, 214,
 217, 219, 226–227
 Seabegs Wood, 142–145
 Seaton Carew, 203, 206
 self-sufficiency, 46–48, 50, 54, 219
 Septimius Severus, Emperor, 29, 129, 165
Sibyllenspur, 159
 signalling, 5, 15, 51, 69, 107–108, 145, 150, 171,
 207
 Silures, 49, 58–59
skopeloi, 12, 16, 147
 slave, 29

 slingshot
 sling bullets; sling stones, 15, 38–39, 45, 87,
 120–121
 South Danube road, 191
 South Shields, 25, 51
 Stainmore pass, 73–77, 92, 132, 146, 162, 192,
 194–195, 210, 218, 220
 Stanegate, 98–104, 106–107, 124, 138, 144–145, 162,
 182, 195, 215, 220
 Summerston, 145, 151
 supply, 6, 16–17, 27, 36, 39, 47, 54, 63, 67,
 71, 74, 85, 92, 103, 151, 181, 184, 188, 198,
 202
 surveillance, 5, 15, 36, 38, 51, 62, 67, 69–70, 75,
 92, 112, 114, 118, 121–122, 128, 131, 147,
 168, 172, 174–176, 183, 195, 218, 220–221,
 223
 Switzerland, 3, 34, 58

tabellarii, 27
 Taunus, 57, 68, 154, 158–161
 temporary camp, 5, 7, 71, 79, 83, 86, 90, 144, 194
tesserarius, 20, 24, 26
Teufelmauer, 165, 171, 175
 textile production, 48, 54, 219
 threat, low-intensity, 23, 115, 151, 177, 179, 216, 223
 Throp, 100–101, 123
 Tiberius, Emperor, 21, 37, 42
 Tipalt–Irthing gap, 112, 123–125
 Tisavar, 9, 41, 199
 tower
 defences, 38
 design of, 7, 12–15, 37–38, 161, 163, 165, 174,
 199, 202, 205, 208
 garrison size, 15, 54, 171
 in fortlet, 10, 187–188, 199, 202, 205–207, 209,
 211, 224
 late, 184, 191, 198, 208, 224
 lifespan of, 23
 overseeing gateway, 171–172
 size of, 194, 214
 tower 10/8, 161
 Trajan, Emperor, 10, 65, 97, 159, 162, 168, 214, 221,
 227
 Trajan's Column, 13, 15
 turret, 96, 105, 107, 112, 114, 116, 119–121, 123, 125,
 127, 130–131, 135, 137, 146, 149, 167, 175, 192,
 220, 222
 demolition, 117, 127–129, 131, 175, 223
 design, 109–110
 garrison size, 15, 115, 118
 reconstruction of, 13, 109
 shooting from, 120
 spacing system, 106–108, 120, 125, 131–132, 174,
 220–221
 surveillance, 107, 114
 turret 44a, 119

- turret 44b, 118, 121, 123, 128, 130
- turret 45b, 118, 121, 123, 128
- turret 48a, 123
- turret 48b, 123, 130

- Upper German *limes*, 14, 58, 93, 154, 158–160, 173–176, 182, 188, 198–199, 220–224
- Urbicus, Q. Lollius, 77, 137
- Utrecht, 37–38, 46, 54, 70

- Valentinian I, Emperor, 198–199, 208
- Valkenburg, 39
- Vallum, 117–118, 121, 125, 136, 144
- Vespasian, Emperor, 39, 160
- vexillum*, 10
- vicus*, 76, 91
- Vindolanda, 6, 10, 17, 22–23, 56, 76, 98, 100, 226
- Vitellius, Emperor, 39

- Walensee towers, 34, 58
- Wales, 36, 49, 53, 58–63, 68–69, 73, 87, 89, 91–92, 101, 184, 214, 219, 222
- Watling Lodge, 144–145
- Waun-ddu, 61
- Wetterau, 57, 68, 92, 155, 157, 160–161, 163, 169, 172, 176
- Whitby, 203, 207
- White Type, 83
- wife, 29
- Wilderness Plantation, 139, 143–145
- women, 24, 29, 186, 219
- workshop, 7, 10, 74

- Year of the Four Emperors, 39

- Zandweg, 37–39, 46
- Zülpich, 183–189, 195–196, 199, 210, 224

The Roman army enjoys an enviable reputation as an instrument of waging war, but as the modern world reminds us, an enduring victory requires far more than simply winning battles. When it came to suppressing counterinsurgencies, or deterring the depredations of bandits, the army frequently deployed small groups of infantry and cavalry based in fortlets. This remarkable installation type has never previously been studied in detail, and shows a new side to the Roman army. Rather than displaying the aggressive uniformity for which the Roman military is famous, individual fortlets were usually bespoke installations tailored to local needs. Examining fortlet use in north-west Europe helps explain the differing designs of the Empire's most famous artificial frontier systems: Hadrian's Wall, the Antonine Wall, and the Upper German and Raetian limites. The archaeological evidence is fully integrated with documentary sources, which disclose the gritty reality of life in a Roman fortlet.

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